Public Utilities

FORTNIGHTLY

Volume XLVI No. 5 August 31, 1950

BOSTON UNIVERSITY

POWER-WATER RIVALRY IN THE GOLDEN STATE
By Edson Abel

« »

How Soon?—Atomic Electric Power
By Herbert Bratter

« »

Intramural Problems in Nebraska's Public Power
By Harry T. Dobbins

« »

Private Communications for Public Education
By Franklin J. Tobey, Jr.

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Public Utilities FORTNIGHTLY

VOLUME XLVI AUGUST 31, 1950 NUMBER 5

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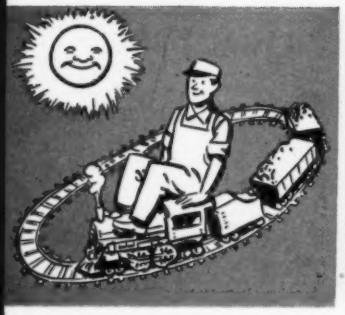

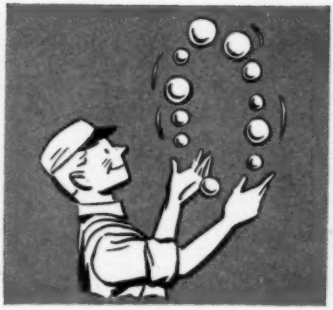

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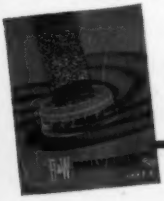

New Bulletin G-57 illustrates and describes the design, construction, operating and maintenance features of the Type E Pulverizer. Write: The Babcock & Wilcox Company, 85 Liberty Street, New York 6, New York.

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Pages with the Editors

GOVERNMENT ownership, whether Federal, state, or local, has always made a strong appeal to those baffled by the problems of making regulation of privately owned utilities work out to their satisfaction. The appeal is based upon the pleasant supposition that where the people own and operate their own facilities, they no longer stand in need of regulatory protection.

UNFORTUNATELY, government ownership as practiced during recent times would seem to suggest that this is really an escapist's point of view. Two articles in this issue reflect realistic problems which have sprung up in the wake of public ownership, seeking to operate in the absence of some form of over-all regulation.

WHAT is going on in the state of Nebraska seems to be a good case in point. There is a state where private electric utilities have been abolished. Result: Instead of entering upon an era of harmonious enjoyment of the fruits of public domain, three different levels of proprietary interest in public power facilities (Federal, state, and local) have gotten into an argument.

HERBERT BRATTER

EDSON ABEL

THE article, entitled "Intramural Problems in Nebraska's Public Power" (starting on page 287), is by HARRY T. DOBBINS, veteran editor of the *Nebraska State Journal,* who has followed this situation continuously in Nebraska since it began in the early thirties. Ironically, it can no longer be charged that the private utility industry is sowing any seeds of discord in order to reap special benefits in Nebraska. Private utilities there have long since vanished and whatever discord survives is unanimously publicly owned and operated.

THE municipalities appear to be dissatisfied with the rates of the statewide public power system and are turning to the Federal government for a better break. But in so doing, they seem to fear that a Federal benefactor will turn into a grasping creditor who will grab their network as a condition to the extension of Federal benefits.

THE pious hope, once echoed by Karl Marx, that Socialism would forever eliminate such sordid and petty arguments over mere money and operating costs, turns out to be illusory. Some kind of top regulation and supervision still

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seems to be necessary. Whatever answer may be worked out to the situation in Nebraska, one alternative is forever closed. That is the possibility that cities can once more turn to tax-paying private companies subject to public regulation which will see that all cost records are kept on a basis of accuracy and equity. The moral of that story would seem to be that a state cannot eat its private enterprise and have it too.

NATIONALLY known columinst Merryle S. Rukeyser takes a hopeful view of these lessons, which must be learned by actual experience in the realm of public ownership. Specifically referring to the Nebraska situation, he recently stated in the Washington, D. C., *Times-Herald:*

> It is a sign of maturity and sophistication when citizens are able to face the realities, and recognize that companies that meet their costs, including their pro rata share of the high cost of government, are not enemies of society, as the Marxists charge, but are useful tools in the struggle for better standards of living.

* * * * *

ANOTHER area of business conflict exists even among beneficiaries of the same Federal agency. The opening article of this issue, "Power-water Rivalry in the Golden State," was written by an official of the California Farm Bureau Federation, EDSON ABEL. This author naturally takes the side of the irrigation interests or water users in California's Central valley.

MR. ABEL, a California attorney, whose present position is that of assistant director of the public utilities department of the California Farm Bureau Federation, has often testified before congressional committees on matters affecting California's Central valley. He has also made numerous addresses in the interest of reclamation, and is the author of a recent report on "Our National Water Policy" in response to an invitation by President Truman's Water Resources Policy Commission for such views.

* * * *

STILL another article in this issue suggests the general importance of pre-

HARRY T. DOBBINS

serving some form of disinterested regulation, even with respect to operations conducted wholly by the Federal government. The article "How Soon?—Atomic Electric Power," beginning on page 276, is an account of practical steps taken to harness atomic energy for peacetime civilian use. Eventually the U. S. Atomic Energy Commission will have to decide on a program for transition of this important technical "know how" from public to private business basis of operation. HERBERT BRATTER, author of this article on the application of atomic energy to private uses, is a well-known writer of articles on business economics—now a resident of Washington, D. C.

* * * *

ONE little-known but notable telephone service gaining acclaim is the adaptation of the office intercommunication device for educational purposes. It is possible for handicapped children or young adults to be "present" in their classrooms or at their lectures—while in fact remaining at home. FRANKLIN J. TOBEY, JR., of the FORTNIGHTLY editorial staff, describes this use, and its development, as well as the benefits which it has brought to many.

THE next number of this magazine will be out September 14th.

The Editors

What's the current outlook for your company?

A SURVEY of your consumers' bills *now* may disclose certain trends that will be of considerable value to you in planning your rate and promotional programs.

Let us prepare such consumers' usage data for you.

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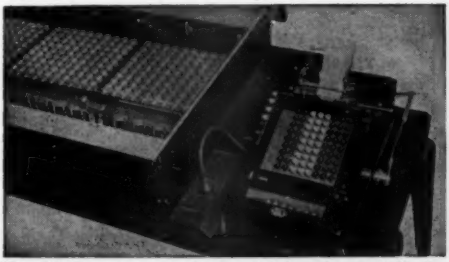

This Bill Frequency Analyzer—developed especially for utility usage data—automatically classifies and adds in 300 registers in one step.

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Coming IN THE NEXT ISSUE

★

Northeastern Area Power and the St. Lawrence

Recently the U. S. Senate ratified a treaty with Canada for the diversion of additional water from the Niagara river. Then a House Public Works Committee considered legislation for Federal hydroelectric development in the Niagara-St. Lawrence area. For many years the reason assigned for Federal financing of the proposed St. Lawrence hydro power project was the inability of private industry to cope with a program of such magnitude. C. W. Mayott, assistant to the president, Hartford Electric Light Company, has written an analysis of what private industry already has done and what it is prepared to do in the future in this area, **without** cost to the taxpayer.

New Light on "Interest during Construction"

It has generally been assumed that the cost of building a utility structure included not only the taxes but also the interest which had to be paid while the building was in the process of construction. The rapid postwar expansion of various public utility companies has resulted in wide variation in capitalization practices. The question of continuing credits for "interest during construction" is an important one, as long as the present rapid volume of construction continues. W. F. Stanley, vice president, Southwestern Public Service Company, discusses the equities involved in reaching the proper treatment for this important building cost item.

Why a Demand Charge?

Recently there appeared in this magazine a critical analysis of a so-called "demand charge" widely used in public utility rate structures and approved by regulatory authorities. Henry W. Hills, well-known electrical engineer of Reading, Massachusetts, has persuasively justified the so-called "demand charge," especially in the case of industrial rates for an electric utility's customers, which has been questioned from the regulatory point of view. Here is a discussion of the background and purpose of the demand charge, which is the result of considerable experience and original thinking by some of the best minds in the industry.

The Company Library—A Tool of Management

What good is a library to an operating public utility company? How can it be made most effective? What are its true functions and possibilities? How large or small should it be, and what should it cost in relation to the company's size and operations? These are important questions, discussed in a very original approach to an important managerial problem—making better use of the company's library. The author is one of the nation's most successful utility librarians, Miss Alma C. Mitchill of the New Jersey Public Service Electric & Gas Company.

★

Also . . . ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***

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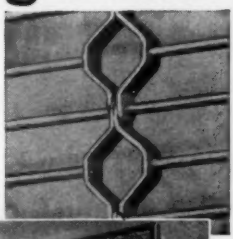

This all-metal barricade guards any opening with a curtain of rugged steel rounds and links. Yet it doesn't cut off light, doesn't block vision, doesn't impede ventilation. It can be lowered into place or raised out of the way in a matter of seconds! It offers convenient protection without loss of architectural beauty. As the pictures here testify, it's the ideal way to prevent trespassing in areas where the public assembles, or wherever it is desirable to block off certain sections of a building.

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Remarkable Remarks

"There never was in the world two opinions alike."
—MONTAIGNE

Excerpt from "Business Bulletin," published by The Cleveland Trust Company.

"The 1950 budget deficit is the eighteenth in the last twenty years. Deficits have become a habit."

H. A. STEWART
Director, U. S. Department of the Interior Oil and Gas Division.

"A subsidized industry is one which no longer is self-reliant and is therefore no longer its own master."

NOEL SARGENT
Secretary, National Association of Manufacturers.

"Industry can do more and do it faster if voluntary coöperation is permitted rather than by government dictation or ownership."

EMIL SCHRAM
President, New York Stock Exchange.

"We have talked entirely too much about 'security.' There has been too much emphasis on 'riskless savings' and a 'safe future.' We should do more talking about people becoming owners of business."

Excerpt from Industrial News Review.

"For the fiscal year which ended in June, 1949, TVA and its associated distributors paid 4.99 per cent of their gross revenues in lieu of taxes. In the same year, the investor-owned industry paid 19.4 per cent—or some four times as much."

BRUCE BARTON
Professional writer.

"I want a great campaign for more faith by our people in themselves, in the United States, and in the capitalistic system which has made the country great. I want the kind of faith that the Bible speaks about—the faith that can 'move mountains.'"

J. B. THOMAS
President, Texas Electric Service Company.

"Where there is justification for a sound flood-control, irrigation, or reclamation project, which the government should build, by all means let it be built. The governmental projects should stop building transmission lines and selling subsidized hydroelectric power from such projects in competition with tax-paying utilities."

HARLEY L. LUTZ
Professor emeritus of public finance, Princeton University.

"Industry has no desire for war profits and no sympathy with war profiteering. Businessmen fully realize that war destroys lives, erodes capital, consumes wastefully our diminishing reserves of limited natural resources, and expends man power on products which do not contribute directly to the welfare of the people."

How to develop the potential ability of your supervisors

In one company after another, the *group-conference system* has proved to be a profitable method for training supervisors to . . .

- **Develop management ability.**
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Under this system, trained leaders guide the discussions within small groups. Supervisors themselves get a chance to help formulate company policy and program by contributing their own ideas and information.

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Excerpt from Columbia Basin News (Pasco, Washington).

"It's time the government started working FOR us, instead of ON us."

GEORGE W. MAXEY
Chief justice, Pennsylvania Supreme Court.

"Now capitalism is under attack, although it gave us the most abundant life we have ever known. The Welfare State means farewell to freedom and a final descent to dictatorship. Under the natural law we cannot be a paternalistic republic."

EDITORIAL STATEMENT
Wisconsin State Journal.

"There are more than 3,500 Federal employees—who cost taxpayers more than a million dollars a month—engaged in selling and lobbying for and stirring up support for the programs wanted—not by the people—but by department heads and Mr. Truman."

FRED I. KENT
President, governing council, New York University.

"Our economic strength is weakened by the acceptance of government subsidies by nearly all of our people and through combined Federal, state, and local taxation (which) takes 26 per cent of our national income. But this would not be possible if our people were living up to their principles."

Excerpt from a report of the Engineers Joint Council.

"From an engineering standpoint the planning and execution [of the Missouri basin] is almost entirely backward. . . . Specific projects were proposed and approved without regard or consideration of their effects on the economy, transportation, local government of counties, and general welfare of the people."

RAYMOND MOLEY
Columnist.

". . . in the past few years there has been altogether too much defeatism among businessmen and others who fear creeping Socialism. They have had the habit of saying that, after all, you can't beat Santa Claus, that super governments have overwhelming advantage in patronage, handouts, and machine organization, and that voters are drugged with promises."

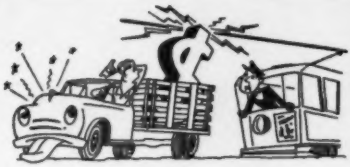
EDITORIAL STATEMENT
Chicago Journal of Commerce.

"The President's [steel] board did accomplish one thing . . . It succeeded in narrowing still further the area in which management in this country is permitted to make decisions. People who yelp and squeal over the delights of the planned economy will welcome this development. For the rest of us it will be just another nail in the coffin of private enterprise."

DAVID LILIENTHAL
Former chairman, Atomic Energy Commission.

"Now, of all times, we need to demonstrate the vigor and adaptability of American business and industrial management. Yet we pick this time to dump our unique advantages overboard for 100 per cent government ownership, 100 per cent government financing, and increasingly centralized and governmental direction of one of the most technical undertakings [atomic policy] in our whole history."

Are high hauling costs short-circuiting profits?



Switch to economical DODGE "Job-Rated" trucks!

You can get a direct "line" to lower hauling costs by investing in an economical Dodge "*Job-Rated*" Truck!

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If your hauling is in heavy city traffic, you'll be pleased with the ease of handling of your Dodge "*Job-Rated*" Truck. If you go where roads are bad—or where there are no roads at all—you'll like the power and dependability of your Dodge "*Job-Rated*" Truck.

If high hauling costs are "short-circuiting" your profits, switch to economical Dodge "*Job-Rated*" trucks. See your Dodge dealer today!

With all their extra value DODGE "Job-Rated" TRUCKS are priced with the lowest

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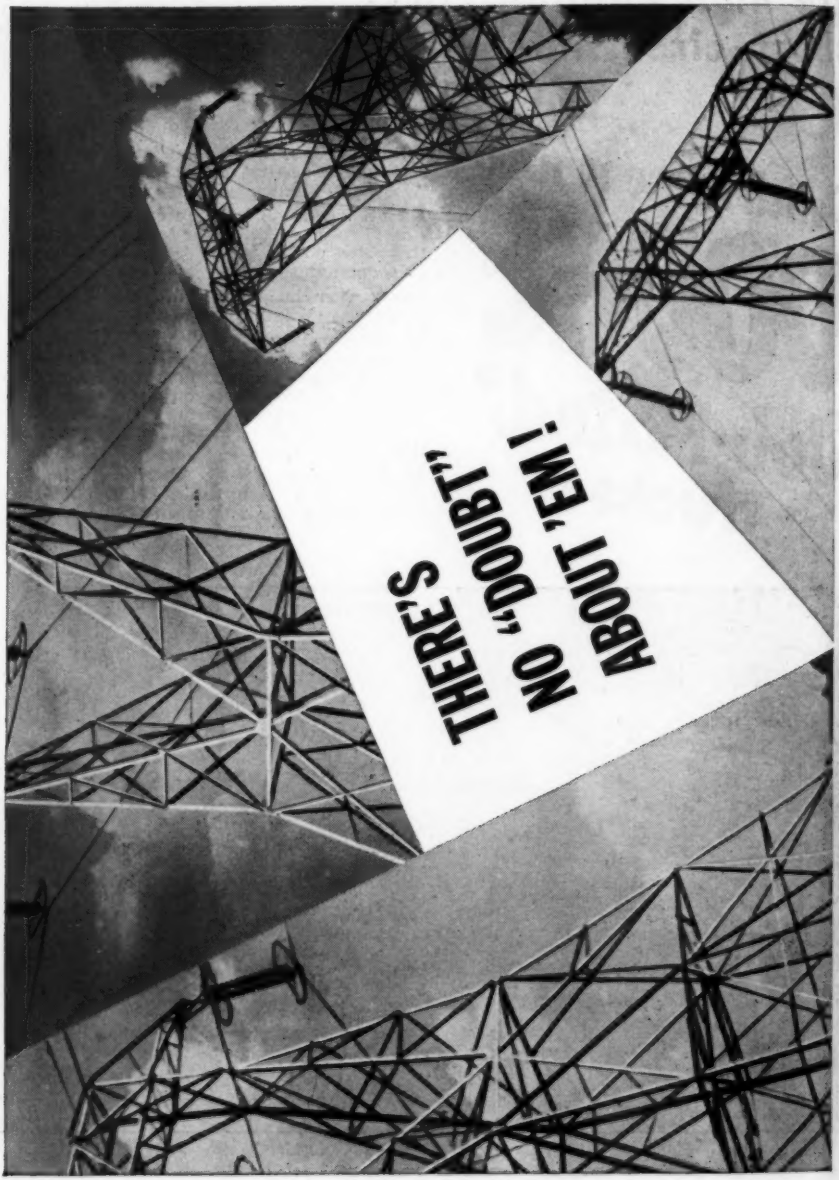

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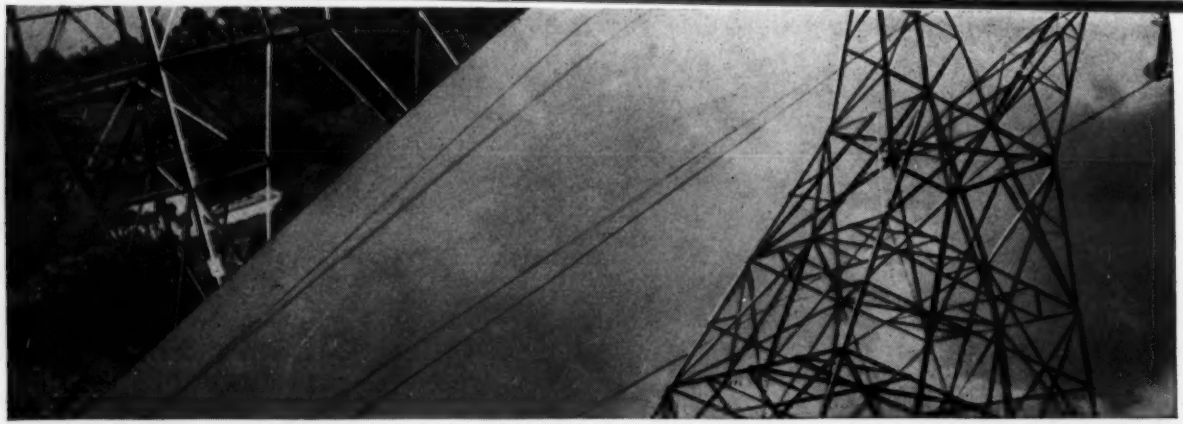

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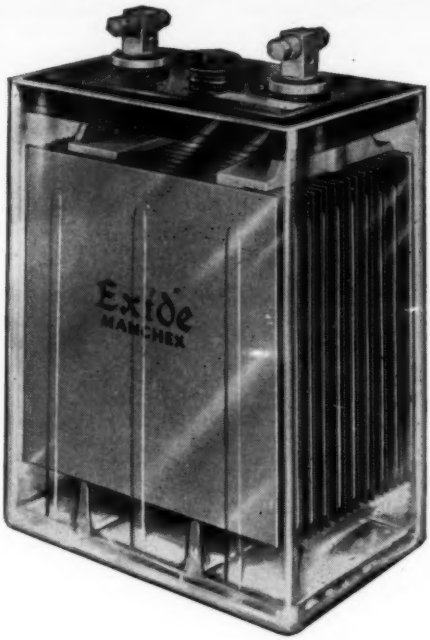
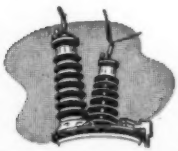


Exide-Manchex Batteries

ASSURE DEPENDABLE POWER FOR SWITCHGEAR OPERATIONS



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. . . plastic spacers that maintain perfect alignment.

. . . the latest development in molded glass jars.

. . . heavy terminal posts with copper inserts for extra conductivity.

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Utilities Almanack

August

31	Th	¶ *Michigan Independent Telephone Association will hold annual convention, Lansing, Mich., Sept. 14, 15, 1950.*

September

1	F	¶ *Annual Appalachian Gas Measurement Short Course ends, West Virginia University, Morgantown, W. Va., 1950.*
2	Sa	¶ *Western Association of Broadcasters ends annual meeting, Jasper, Alberta, Canada, 1950.*
3	S	¶ *Mid-West Gas Association will hold gas school and conference, Ames, Iowa, Sept. 14, 15, 1950.*
4	M	¶ *Controllers Institute of America will hold annual meeting, Chicago, Ill., Sept. 17–20, 1950.*
5	Tu	¶ *National Butane-Propane Association will hold meeting, Cleveland, Ohio, Sept. 18, 19, 1950.*
6	W	¶ *American Water Works Association, Minnesota Section, begins annual meeting, St. Paul, Minn., 1950.*
7	Th	¶ *Southern Gas Asso. begins dispatchers conference, Shreveport, La., 1950.* ¶ *Maine Telephone Association ends 2-day convention, Belgrade, Me., 1950.*
8	F	¶ *New Jersey Gas Association begins one-day annual meeting, Spring Lake, N. J., 1950.*
9	Sa	¶ *West Virginia Broadcasters Association ends meeting, White Sulphur Springs, W. Va., 1950.*
10	S	¶ *American Water Works Association, Wisconsin Section, will hold annual meeting, Oshkosh, Wis., Sept. 19–21, 1950.*
11	M	¶ *Instrument Society of America begins national conference and exhibit, Buffalo, N. Y., 1950.*
12	Tu	¶ *American Society of Mechanical Engineers will hold fall meeting, Worcester, Mass., Sept. 19–21, 1950.*
13	W	¶ *Northwest Public Power Association begins convention, Portland, Ore., 1950.* ¶ *American Water Works Asso., W. Va. Sec., begins meeting, Huntington, W. Va., 1950.*

Power Crosses California's Carquinez Strait

Tower of 383 feet for multi-cable span of nearly a mile.

Courtesy, Pacific Gas and Electric Company

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Public Utilities
FORTNIGHTLY

VOL. XLVI, No. 5 August 31, 1950

Power–Water Rivalry in the Golden State

Farmers in the Central valley area of California are primarily interested in irrigation. But in recent months their relations with the Reclamation Bureau have been complicated by the so-called 9(e) contract policy of the bureau. Here is a frankly critical article on the purpose of the bureau's new contract policy by a California Farm Bureau Federation official.

BY EDSON ABEL*

WE have heard from time to time the declaration that a certain form of social economy is on the march; lately it has been said that Socialism is creeping on us. Whatever may be the facts elsewhere, in the current construction and operation of the Central Valley project of California and other undertakings of the Bureau of Reclamation, Socialism is operating under a disguise. It is not entering the picture in a straightforward, honest, and aboveboard fashion. It is being promoted by government bureaus under cover of their ostensible statutory powers.

Several years ago a former Department of the Interior policy official was asked why the Bureau of Reclamation was so intent upon controlling the water and power resources of California's Central valleys. His very frank answer was: "That's easy. If we control the water and power of

*For personal note, see "Pages with the Editors."

those valleys, we can set our own pattern of social changes." While this social changer has since migrated to more lucrative private enterprise fields, his chosen disciples still carry on in the same tradition. Consider these factors supporting the above general conclusion:

1. The Bureau of Reclamation is bringing pressure to bear on irrigators in the Central Valley project to force acceptance of nationalization of the waters which are to serve them.

2. The bureau seeks to set up, with moderate success so far, a nationalized commercial power system in connection with the Central Valley project.

3. The bureau is financing this program of Federal nationalization of water resources of California in part with the taxpayers' money, but also, and to a larger extent, by arbitrarily diverting revenues of the project which should be applied as a matter of law and equity to reducing rates on irrigation water and reimbursement of the Treasury.

As one primarily interested in California reclamation, I object to this program because it is being financed in the Central Valley project, as well as elsewhere, largely with monetary benefits which rightfully belong to the irrigators. There is, of course, the additional objection that a policy change of such a radical nature should be openly avowed and honestly accepted, before it is put into practice.

Without any authorization from the Congress, and possibly with only limited appreciation on the part of a few of its members of the real significance of the program, the Bureau of Reclamation is actually initiating the nationalization of the water resources of the Central valley. Lest any reader brush this statement aside as just another purely local California complaint of no vital concern to other areas, let me hasten to say the Central valley pattern, with some questionable modifications, is being followed by the Bureau of Reclamation in the Missouri basin. Efforts are being made to achieve the same objectives in the Columbia basin by means of the valley authority for which the Bureau of Reclamation is just now plugging so hard.

So, what is going on in California can serve as a warning of what may be expected in other areas of the West which are compelled to entrust the development of their water resources to the neo-Federalists who seem to dominate the Reclamation Bureau.

In California, as elsewhere in the West, the plight of the irrigating farmers was the basis for appeals to the Federal government for aid. The irony of the present situation is that our drought-plagued farmers are furnishing not only the protective coloration but also considerable funds to finance this unheralded venture into nationalization of water and power resources.

How is this nationalization of irrigation water being achieved? It is quite simple when local necessity assists the process. It is being done by means of what have become known as the 9(e) contracts. Authorization for such contracts slipped through the Congress in the Reclamation Project Act of 1939. Section 9(e) of this statute is the authority used as a basis for the contracts.

You cannot find one word on this paragraph in the hearings on the bill or on the floor of Congress when it was passed. Apparently everyone, except strictly inside planners of the bureau, assumed it was in the bill merely to authorize temporary interim contracts for the sale of water. There was no general recognition of the fact that this controversial section was to be used by the bureau to accomplish a *major* change in Reclamation policy, to authorize an abandonment of the traditional policy of the bureau to operate on repayment contracts, and to serve as a basis for its departure from the rôle given it by the United States Supreme Court as a mere conveyer of water. Little did anyone realize that the Bureau of Reclamation intended to use this contract to nationalize all of the water resources with which it came in contact, and to place those water resources under its own absolute dominion in perpetuity.

To sugar-coat the acceptance of these contracts, it is claimed that they are the only means by which additional Reclamation projects can be financed because developments are becoming so costly that irrigators cannot pay the annual burdens required by the old-time 40-year repayment provisions. This has a real but specious appeal, both to the Reclamation project promoters, the hard-pressed irrigators, and to others disinclined to analyze the figures. What is overlooked in connection with the Central Valley project is the fact that with any reasonable business ability and economical management this project *could pay* off its obligations to the Federal Treasury within the forty years specified in § 9 (d) of the Reclamation Project Act. And do it with lower water rates for the irrigators!

WHY, then, doesn't the bureau do the job just that way? Here the issue of long-range nationalization emerges for what it is. Under the old repayment arrangement, a § 9 (d) contract, the bureau would, sooner or later, *lose all control of the water supply, and the project.* Such an eventuality is repugnant to the social planners and nationalizers. So there began to develop notable increases in construction and operation costs. Next came the use of the 9 (e) contract under which Reclamation Bureau dominion over the project never ends.

The misgivings of Congress on cost reimbursements were allayed by assurances that actually the 9 (e) contracts provided a means of extending the repayment period, without too obviously replacing §9 (d), the 40-year repayment authorization. Eventual and complete reimbursement was claimed as an objective under the new

¶ "WHATEVER *may be the facts elsewhere, in the current construction and operation of the Central Valley project of California and other undertakings of the Bureau of Reclamation, Socialism is operating under a disguise. It is not entering the picture in a straightforward, honest, and aboveboard fashion. It is being promoted by government bureaus under cover of their ostensible statutory powers.*"

setup. But the bureau did not point out to Congress (1) that under the 9 (e) contracts, even after complete repayment of construction costs is made by the irrigators, the cost burdens on them would not be alleviated; (2) they would never be rid of the burden of Federal bureau supervision. It was only later that Reclamation Commissioner Straus revealed to Congress that if a balance of the construction costs remained unpaid at the end of the 9 (e) contract period (forty years or less) the bureau knew it could "sell that water other places in the area and get back the balance and a lot more for the government." Apparently the "profit" motive is not without honor in government agency circles, under such circumstances of perpetual government controls.

POINTING to the alleged inability of the Central Valley project water users to pay, the bureau has extended the period during which the reimbursement of the Treasury will theoretically occur from forty to fifty-five years. As a price for this leniency the bureau demands (and receives) the water rights of the water users. Of course, the users get a very complicated contract in which, subject to a lot of ifs and ands, the bureau agrees to deliver water for a limited period. At the end of that period, there must be a *new* contract with possible *new* terms and conditions. Otherwise, the water will be diverted elsewhere. Under this setup, the water right, as California irrigators know it and as California law recognizes it, is surrendered and the bureau is then in a position to peddle the water as it sees fit.

This contract method represents some very adroit legal planning. The Congress has always insisted that water users be given a water right under state law. The Supreme Court has ruled that this was mandatory requirement for a mere executive agency. But the law says nothing about a water user "voluntarily" surrendering the right Congress contemplated he be furnished. Certainly no one else can complain if the water users voluntarily relinquish their rights to a beneficent bureaucracy. The fact that the appearance of willingness was induced by the pressure of economic necessity is something which remains undisclosed. The bureau makes it clear, however, that its water users under the 9 (e) contract have no water rights.

IN passing, the comment of an official agency reviewing these contracts is pertinent. The California District Securities Commission had this to say about one of the first of these contracts coming to its official attention:

> The commission is fully cognizant of the need of the lands within the district for supplementary water and is desirous of doing everything within its power to expedite the securing of such supply, but has, in its deliberations and analyses, carefully weighed this very urgent need against surrender by the district to possible dictatorial control and regimentation. The proposed contract contains many provisions deemed not only onerous, but entirely unnecessary either for orderly administration, or to protect the government investment.

Thus, not only do the 9 (e) contracts nationalize the irrigation water supplies of the Central Valley project

High Water Rates in California

"THE rates for water assessed against the water users are, with few exceptions, the highest in the state [of California]. The actual quoted level is misleading in that those rates apply to water 'as is' in the canals. The cost of getting it out of the canal and on the land is an extra charge against the water users. Competent estimators double the so-called canalside rate, to get what the irrigator actually pays for his water at its place of use. As a matter of fact, the contract figure for class I water actually exceeds the maximum ability of the irrigators to pay . . ."

but they also provide for regimentation of the water users under domination of a Federal agency.

ONE of the primary uses of water in irrigation projects is the generation of power. The Central Valley project rests for financial solvency upon power from Shasta dam, which also includes the minor Keswick installation. These dams provide about one-fifth of the energy now distributed by the Pacific Gas and Electric Company which is the major power utility in California north of the Tehachapi mountains and within transmission range of Shasta dam. The statutory rôle of this power facility is quite clear.

The congressional authorization occurred first in 1937 (50 Stat pp. 844, 850) when the recital of the purposes of the Central Valley project included "the generation and sale of electric energy as a means of financially aiding and assisting such undertakings (*i.e.*, the other purposes of the project)." This statutory language has been repeated several times and it is now one of the controlling restrictions upon the administration of the power facilities. The California State Water Plan and the Central Valley Project Act (California Statutes 1933, page 2643) provide for "*incidental* generation, transmission, and distribution of electric energy." (Emphasis supplied.) Our irrigation projects are accustomed to

using power profits to reduce irrigation costs.

Another restriction upon the disposition of power is to be found in § 9 (d) of the Reclamation Project Act of 1939 which carried forward a policy originating in 1906, providing that "no contract relating . . . to electric power or power privileges shall be made unless . . . it will not impair the efficiency of the project for irrigation purposes."

These are extremely pertinent provisions as they directly conflict with the program which the Bureau of Reclamation proposes to follow in handling the power production of the project. In fact, they are such a serious threat to that program that the bureau has quietly attempted twice recently by equivocal language, in proposed legislation, to obtain their elimination.

By virtue of necessity at the present time, Shasta power is being sold to the Pacific Gas and Electric Company adjacent to the dam on a basis which yielded in 1949 the very satisfactory figure of 5.1 mills per kilowatt hour. This is over five times what it gets for Grand Coulee power. But the bureau intends to terminate this arrangement and insists upon transmitting the energy over 200 miles and selling it there at a figure which it estimates will be 4.57 mills per kilowatt hour, and at the same time building a steam plant costing not less than $35,000,000 just to firm up Shasta power for which it already is getting a firm price.

I know this does not make sense. But I do not know if the bureau knows —or cares. The obvious fact that the project can receive at least the same price per kilowatt hour at Shasta dam as it can over 200 miles away and at the same time avoid the costly transmission and other losses of from 15 per cent to 20 per cent which are inevitable under its program has never been noticed, much less explained. These losses alone on 1949 basis would represent a reduction in annual revenues of over $1,350,000 without offset or compensation of any kind. Furthermore, rounding out its commercial power system with transmission lines and a steam plant involves a total additional and wholly unnecessary investment of over $100,000,000 or approximately 22 per cent of the present total cost of the project. All this on the sacrificial altar of nationalization.

In connection with this $100,000,000 of additional investment, it must be borne in mind that it will produce little if any additional kilowatt hours for sale. The transmission lines, of course, will produce none, although the bureau made some confusing suggestions along this line during the prevalence of the drought. The steam plant may add some energy to the total but it is intended essentially as a standby unit, to insure against stoppages in the main producing units. So, the $100,000,000 investment can produce little, if any, revenue, but will have to be supported by other functioning units. Sales at the dam to the Pacific Gas and Electric Company are mainly on a firm basis as that utility is in a position to firm up the power from its other facilities and so far has paid the charges demanded by the bureau.

The bureau does not come out in the open with the ultimate objective. That is the nationalization of

Shasta power—followed by production on the American and Kings rivers. One of the defensive arguments is that the government ought not to sell its energy to a monopoly, which would make a profit on it. This, of course, does not square with the fact that the California Public Utilities Commission allows as an operating expense of the public utility company only the exact cost of the energy, dollar for dollar. No profit can be made on it because the utility is allowed only a fair return on its investment, not on what it pays for purchased power (which is no part of its investment). The status of the private utility, whether a service area monopoly or otherwise, has been fixed by the people of the state of California, presumably in their own interest.

Another explanation of the bureau is that it is required by Federal law to give preference to publicly owned retail distribution agencies. It interprets this requirement as making it mandatory for it to deliver firm power right up to the back door of the preferred agencies, just like the milkman delivering bottles. This, notwithstanding an opinion of the United States Attorney General of long standing to the effect that "it is the first duty of the Secretary [of Interior] to consider the welfare of the project and the water users. The duty to prefer municipal purposes is secondary and incidental."

UNDER such protective coloration, the Bureau of Reclamation goes ahead with nationalizing the power resources of the Central Valley project and is doing it largely at the expense of the irrigators it is supposed to help. The "help" the irrigators are getting, increases their costs in this manner:

First, the bureau unnecessarily increases the total reimbursable investment by some $100,000,000 or by over 20 per cent.

Second, it absorbs large amounts of water and power revenues to support personnel, many of whom are engaged in promoting political and social propaganda, along the lines indicated. These diverted revenues ought to be applied to the repayment obligations of the irrigators.

Third, it impairs the efficiency of the project for irrigation purposes, by assessing needless water charges and by removing the eventual possibility of reduced irrigation rates. Epitomizing these effects, the irrigators will have more of a money obligation to repay, but less money with which to pay it.

Now, if the Bureau of Reclamation were required to forego socialistic nationalization of the power resources entrusted to it, enough money would be saved so that the irrigators of the

¶ *". . . if the Bureau of Reclamation were required to forego socialistic nationalization of the power resources entrusted to it, enough money would be saved so that the irrigators of the Central Valley project would be able to secure the water they badly need, at less than half of what they are being required to pay under the current Bureau of Reclamation contracts."*

Central Valley project would be able to secure the water they badly need, at less than half of what they are being required to pay under the current Bureau of Reclamation contracts. Specifically, the $3.50 per acre-foot canalside rate, which prevails for class I or firm water, could be cut to $1.50 per acre-foot, while the class II rate of $1.50 could be reduced to 65 cents per acre-foot. These figures result from careful and detailed analyses and calculations based on the available project revenues related to the repayment commitments. The difference between the two rates is what the irrigators are being forced to contribute to advance the social theories and aspirations of the Bureau of Reclamation in the Central Valley project power field.

THESE lower costs would come about not only from reduction in capital investment but also from retrenchment in annual operating expenses. No private power company would be permitted by a regulatory commission to spend its revenue in the way the bureau proposes. In its report to the Congress, it announced that it was allocating nearly 60 per cent of power revenues for its own operation, maintenance, and overhead. There was no breakdown among the three items and it would not be unfair to assume a situation akin to that which recently was exposed in a Senate hearing on the bureau's use of its appropriations. In the Central Valley project it was applying some 25 per cent of them *to its own overhead,* when its own chief engineer, the eminent Walker Young, testified that 8 per cent would be generous.

Let no one gain the impression that I criticize these bureau practices because of an interest in overly generous treatment of the water users. The water users are entitled to fair and reasonable rates. They are entitled at least to equality of treatment with other beneficiaries of the Central Valley project. There is no justice in charging them to the very limit of their ability to pay, so as to permit the Bureau of Reclamation to cut power rates below those found just and reasonable by the California Public Utilities Commission. And this merely to take business away from the private utility companies and permit the bureau to carry on its campaign for further socialistic expansion and adventures.

The rates for water assessed against the water users are, with few exceptions, the highest in the state. The actual quoted level is misleading in that those rates apply to water "as is" in the canals. The cost of getting it out of the canal and on the land is an extra charge against the water users. Competent estimators double the so-called canalside rate, to get what the irrigator actually pays for his water at its place of use.

AS a matter of fact, the contract figure for class I water actually exceeds the maximum ability of the irrigators to pay, as calculated by the Bureau of Reclamation itself. In House Document 146, 80th Congress, 1st Session, the bureau's report to Congress on the project, the net revenues from irrigation water during the repayment period are figured at $72,505,812. To obtain this net amount, it assumed that class I water would be sold

at an average of $2.70 per acre-foot, while class II water would command $1.45 per acre-foot. These rates compare with current actual contract rates of $3.50 and $1.50, respectively.

Thus, the primary rate actually being charged substantially exceeds the rate under which the $72,505,812 in net revenues was to be derived. The significant fact in this connection is that the bureau in this same report conceded "that the farmers' ability to pay for irrigation water may be reduced below the levels which now appear wholly reasonable and probable," and estimated the maximum net revenue to be derived from irrigators during the repayment period at $55,470,875. In other words, the bureau thought the $2.70 rate per acre-foot for class I water and $1.45 per acre-foot for class II water exceeded the anticipated ability of irrigators to pay.

There was good reason for this conclusion that the irrigators' actual ability to pay would be less than that estimated in the report. The calculation in the report was based upon farm income during 1939-1944 when it was inflated by war conditions. Hard economic facts of the postwar already have rendered that basis obsolete and the outlook under the new disturbed situation since the Korean outbreak is far from promising. Thus, while the bureau's own estimates of ability of the irrigators to pay is now approximately $2.05 per acre-foot for class I water, its contract price is $3.50 per acre-foot.

It is, therefore, a fair statement that the Central Valley project irrigators are being forced to pay charges in excess of their maximum ability. Meanwhile, the bureau finances its competitive position in the sale of power to consumers already adequately served at rates found just and reasonable by the California Public Utilities Commission, and actually among the lowest in the country, when compared with tax-paying utilities.

Those who have any doubt about where the Bureau of Reclamation is leading in the commercial power field, should study the bureau's "Program for Electric Power Development in the Western United States" for 1947-52.[1] This report, incidentally, is not thrown around indiscriminately, but it exists as here described. The map of "Advance Program of Power Development" which closes the report shows a giant transmission grid connecting Grand Coulee, McNary, Bonneville, Shasta, Folsom, Kings river, Hoover, and other Colorado river installations, Salt river, Elephant-Butte, Colorado-Big Thompson, Pathfinder, Minidoka, Hells Canyon, and Hungry Horse developments west of the Missouri basin, together with all the large power installations anticipated in the Missouri basin. Even a casual review of this program will destroy any illusions about modesty in the ambitions of the Bureau of Reclamation.

But to us in California, the primary consequence of these ambitions is the imposition on our irrigators of unjust and unnecessarily high water rates, as well as the yoke of perpetual dominion by an absentee monopoly.

[1] There is described in Public Utilities Fortnightly, January 20, 1949, page 116, the scope of a similar Reclamation program, 1948-54.

How Soon?–Atomic Electric Power

Problems to be faced in designing and operating an electric power plant are multiple and forbidding. The commercial applications of atomic power still occupy a major place in plans of the Atomic Energy Commission, notwithstanding the sudden and abrupt change in atmosphere due to the Korean outbreak and the threat of local war. The author of this article gives us some clews on the question of how soon the atom will go to work for commerce and industry as a domestic servant on the home front.

By HERBERT BRATTER*

"WHEN will public utilities be putting the atom to work?" utility executives would like to know. Certainly not very soon. The time is not yet in sight. But some persons close to the work on the atom think that estimates of ten to twenty years are overly pessimistic, in the light of the intensive work now going on to harness the atom's energy to the submarine. If the efforts are successful and schedules are telescoped, as could happen, there will be far-reaching industrial implications as a by-product. In the words of Senator Brien McMahon, chairman of the congressional Joint Committee on Atomic Energy, "The *submarine project* under way at Knolls is not only of great importance from a military and defense viewpoint but also from the viewpoint of *peacetime industrial power*. The Knoll's submarine reactor will be a tremendous stride toward putting the atom to work for man's benefit. A *submarine power plant could be used as well in a freighter or an ocean liner—and solution of the technical problems involved may well point* the *way to power for industry*. The GE personnel at Knolls are working with vigor and enthusiasm upon the submarine problem." (Italics supplied.)

In contrast with the foregoing you can find in Washington much less optimistic views. For example, a government official, who watches atomic developments from the viewpoint of one

*For personal note, see "Pages with the Editors."

interested in electric power, observed to the writer that the use of atomic energy by public utilities appears so far away as not to merit being put down as a possibility at all. "Our standard of living," stated this layman, "depends upon the amount of energy we use, and our use of energy has been leaping upwards. Between 1920 and 1949 the use of energy by public utilities, plus the capacity of industrial power plants, increased from 18 to 51 kilowatts *per capita.* When you compare the available quantities of uranium with the reserves of coal and oil and water power, the chances of satisfying our needs through atomic energy seem most remote."

THE AEC has launched a number of experimental reactors for primarily military purposes. The main ones come under three headings:

(1) The experimental breeder reactor will test the practical feasibility of breeding fissionable material with fast neutrons and investigate the application of liquid metals to the removal of fission-produced heat from reactors at high temperatures. The breeder reactor is located in an isolated part of Idaho so that it may be operated at a higher power level than would be feasible in a more populated area. While it is not designed to produce usable power, an incidental amount of power may be generated as a by-product.

(2) The materials testing reactor is to test the materials to be used in future reactor construction. Since power reactors of the future will be operated at greater neutron intensities than those of today, it is necessary to determine the reactions of various materials used in the buildings, cooling systems, and shields under the postulated conditions. The materials testing reactor is of special interest to the aircraft industry.

(3) The ship propulsion reactor aims at producing large amounts of heat under conditions permitting its conversion into power for the propulsion of large naval vessels, thus eliminating the need to carry large amounts of fuel and to refuel such ships. Obviously, the successful achievement of this goal will have important meaning for shore use as well.

A fourth reactor project, the intermediate power breeder reactor of the Knolls Atomic Power Laboratory, was deferred in March because of more pressing needs and for other reasons. Had this project not been deferred, it would have sought to produce useful power in significant amounts without depleting, and perhaps even increasing, the nation's supply of fissionable material. In time, doubtless, this effort will be resumed.

THE stakes in the studies under way are enormous, for one pound of U-235 or plutonium has a potential fuel value of thousands of tons of coal. By combining a gram of hydrogen with seven grams of lithium it would be theoretically possible to release half a million kilowatt hours of energy. The major difficulty in atomic power production is the attainment of high-temperature operation.

But there is also the question of whether the fuel will be available to industry. According to Lawrence R. Hafstad, director of the AEC's reactor development division, in view of the high military demands for fission-

able material for A-bombs, it is conceivable that there will be little left over for military mobile power units, let alone civilian power installations.

Before atomic energy can be harnessed for utility use in the generation of electricity, a legion of problems must be solved: problems of sesearch and techniques, the cost of which is fabulous; problems of construction, coolants, waste disposal, etc.; and problems of national security. For in many cases the atomic counterpart of the ashes discarded by steam plants will be fissionable materials, the most powerful explosives known to man. Linked with the above problems is the question of how much of what the government researchers discover about atomic power they can safely release to the general public, since the latter includes enemies of our way of life. For a great industrial nation to make use of the new knowledge a great body of technicians must receive training in the atom.

THE fact that the Russians already have the atom bomb has removed the need for much of the deep secrecy under which atomic developments here have been kept or sought to be kept. The government has been conscious of this fact in declassifying patents and other information and in establishing advisory committees. The harnessing of the atom by industry also will be speeded up by the present atomic armaments race. More reactors of all kinds will be tried out, improving the chances of release to the public of essential information on the low-power type.

A few weeks ago AEC Commissioner Gordon Dean indicated a change in official attitude when he publicly stated:

> The Russian atomic explosion . . . taken together with several other events suggests that in the interest of the national security, it may be wise to declassify rather broadly certain scientific and technical information which the Russians must have possessed in order to achieve an explosion, and at the same time to withhold information on the status of programs which is of the greatest value to an enemy.

Mr. Lilienthal Speaks Out

THE former chairman of the AEC, David E. Lilienthal, writing in *Collier's* of June 17th and July 6th, declared that the time for the first industrial applications of atomic knowledge is overdue. He wants to end the government monopoly and give American competitive industry a chance. The basic provisions and fundamental assumptions of the Atomic Energy Act, he states, ought to be thoroughly reëxamined by the country. Assuming that this is done, how can private industry get started? Lilienthal would be inclined to lease to the private companies now operating

¶ "FOR *power use, the problem of controlling atomic reaction is most complex. It may be necessary for the first installations to be operated so as to feed the power generated into a system having other generating capacity which can absorb the variations.*"

them the government plants producing uranium-235 and plutonium. Without delay, he states, other industrial firms should be fully informed about the nature of these plants and their processes. And they should be asked to suggest improvements in the processes.

Although the amounts are huge, private investment in such plants is not out of the range of future possibility. Mr. Lilienthal writes: "A more important and creative opportunity lies in the designing and building of atomic machines by private concerns, *with their own funds.* One is a machine, called a reactor, to produce electric power, which might also produce plutonium while it produces power." To this end a good many provisions of the law must be changed, to improve the climate for private effort in this area; there would have to be a complete revision of the patent laws to provide the needed incentive; and the present political veto over scientific and industrial advance must be eliminated. Also, tax allowances must be given to companies which successfully pioneer in atomic development.

ABOUT reactors in particular Mr. Lilienthal's *Collier's* article observes:

"Atomic reactors, heretofore built for the government with public funds or now under design, cost millions of dollars. Whether reactors need to cost nearly so much is one of the important things industrial competition will probably establish.

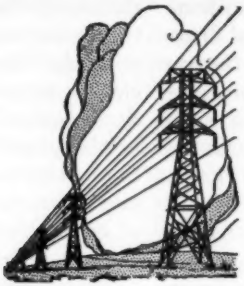
"One such experimental reactor I have suggested for private investment would produce electric power, but is so designed that it will also produce plutonium as a by-product. The builder of the reactor would use, or sell, the electricity. An example of an opportunity for such an operation is phosphate fertilizer production, using the electric furnace method, in the power-short Idaho-Utah region that is rich in phosphate ore. Aluminum production, which requires great amounts of electricity, preferably near the supply of bauxite, might prove to be another such example.

"The important thing about the building of such a reactor—important for the country as well as industry—would be this: For the first time an atomic industrial machine would be built *with the builder's own money.*

"THE first breath of the tonic air of competition would blow through the atomic industry. With its own dollars—not the government's—at stake, industry would assign its very best men to these tasks. The heat would be on. The industrial atom would really start to roll. This would not be wholly because of the pressure of costs and the desire for profits. The fun would be back in this particular venture, the wartime hang-over of 'cost plus' would ease off; pioneering gumption and a sense for costs would return. . . .

"In the considerable job of actually creating these reactors, finding materials that will perform under these new conditions, getting the 'bugs' and the high costs out of them, as well as in using them day by day, ideas would start rising all through American industry even as life stirs under the spring sun after the long dormancy of winter.

"The building of these reactors by private industry would, of course, re-



Mars Can Be Mother of Invention, Too

"THE consensus of those close to the work on the atom in this country is that atomic power for industry sometime is likely, but that it is yet many years away. However, the very preoccupation with military aspects and the intensification of the disturbed relations with communist nations may produce unforeseen progress in the non-military applications, including power."

quire substantial amounts of atomic materials. Reliable American companies ought to have a right to buy *and to own* such materials in any amount reasonable for research, development, or power purposes. The law might specify as a ceiling the maximum percentage of the total supply of uranium which should be in private ownership, but certainly if that percentage is fixed conservatively that material will do at least as much for the *national security* if used for developing the industrial atom as would the same amount in atomic or superatomic bombs.

"The government, of course, should keep close track of all atomic materials owned privately. And, of course, the government's right to take possession of any private atomic material at any time, paying compensation afterward and not as a precondition, ought to be made part of each sales transaction."

Power Plant Problems

A VERY large part of the development costs of other "new era" industries such as aviation and synthetics (notably rubber) has been borne by other industries. Unless part of the cost of nuclear power development can be borne by such other industries, it may be impossible to proceed.

The problems to be faced in designing and operating an atomic power plant are multiple and forbidding. They have been well presented by Ward F. Davidson of the Consolidated Edison Company of New York, Inc., in his article in PUBLIC UTILITIES FORTNIGHTLY, January 5, 1950. Mr. Davidson's main observations are condensed below:

The hope of large-scale power pro-

duction rests heavily on the possibility of developing successful breeder reactors, and this in turn poses big engineering problems. The need to limit neutron loss leads to a reactor of spherical or cubic shape and one large one rather than several smaller ones. For the necessary sensitive control system several new sensing elements and primary detectors must be devised. The structural materials must be stable under radiation and their absorption of neutrons low. To sustain a chain reaction the loss of neutrons must be kept low, yet for this purpose most common engineering materials must be rejected.

Finding a suitable heat-transfer medium or media is not easy. A two-stage system seems unavoidable. Another essential is adequate shielding to protect both personnel and equipment against radiation. Access doors and openings must avoid structural change and deterioration.

In Mr. Davidson's opinion, it probably will be many years before the full possibilities of the gas turbine can be utilized in atomic power. The turbine and generator can be quite conventional, the latter however presenting some new design problems. Especially, it will have to be free from leakage to insure against contamination of the steam.

Before any of the suggested heat-transfer fluids can be used, extensive and complex performance and engineering studies must be made. Among the fluids usable are helium, water, molten cadmium, molten lead, etc.

For structural materials all the metals commonly used in engineering are open to major objections. Those believed usable—beryllium, titanium, molybdenum, tantalum, etc.—may be prohibitively costly. Use of ceramics presents separate problems.

Among other problems listed by Mr. Davidson is providing in the reactor for the removal of fission products and replenishment of the supply of fissionable materials. Continuous feeding and purging are the desideratum but how they can be achieved is not yet clear. It is not just a question of a mechanism, but of designing a reactor which lends itself to such processes. There must be special tools for maintenance and repair and provision for treating the depleted charge removed from the reactor to salvage the unspent fissionable materials and safely dispose of the unusable wastes.

For power use, the problem of controlling atomic reaction is most complex. It may be necessary for the first installations to be operated so as to feed the power generated into a system having other generating capacity which can absorb the variations. Few pieces of auxiliary equipment commonly used elsewhere—fans, flow meters, pumps, heat exchangers, etc.—can be used without very extensive modification.

Plant costs and fixed charges will be more like those of hydroelectric than fuel-burning installations, even though the "fuel" cost of a reactor may be negligible.

And there will be another heavy cost. Since no atomic reactor could today be placed in a populous area for fear of accidental release of radioactivity, larger transmission costs would offset some of the advantages of lower generation costs.

Waste Disposal

HANDLING radioactive wastes in the atomic energy program is the subject of a special pamphlet published by the AEC and available at 15 cents from the Superintendent of Documents. Gaseous, liquid, and solid wastes appear at each of the various "hot" steps in the atomic energy process. Reactor operators need to be familiar with the handling of radioactive water, air, and solids, including radioactive scrap metal and discarded motors, valves, piping, and even buildings.

Mr. Pike's Opinion: Cost May Be Prohibitive

IN the spring of 1948 AEC Commissioner Sumner T. Pike estimated that it would be from five to fifteen years before atomic power from nuclear reactors would enter into competition with other sources of power. Entering into the question are both the formidable technical problems and the economic cost of reactor operation for private account. Even if the technical problems are all licked, the cost of operation may be out of the question. Mr. Pike's discussion of this angle is worth quoting here. He said:

". . . let us try to examine the . . . question . . . I suppose it is a fair approximation to say that the cost of power from any source is made up of its capital cost, its operating cost, and depreciation or obsolescence. Hydroelectric power, as we know, normally has a high capital cost, a very small operating cost, very small depreciation, and since a good hydroelectric plant operates close to top theoretical efficiency, almost no obsolescence. A steam plant—and now we are talking about the boiler end of the steam plant, since the nuclear reactor as power producer is merely the boiler end of the plant—the steam plant has characteristically a low capital cost, a high operating cost, largely for fuel consumption, and a medium rate of depreciation or obsolescence which, since the initial capital cost is quite low, has little effect on the ultimate cost of power. Until we have made a machine that will operate at all, we can't have any accurate idea of the capital cost. Any cost estimates based on the presently available scanty data would indicate that at the beginning the capital cost would be so high that if even there were no operating or depreciation factors, interest charges alone would take the atomic power plant out of competition with present methods of power production.

"This, however, should not be taken very seriously because as soon as the

¶ "BEFORE *atomic energy can be harnessed for utility use in the generation of electricity, a legion of problems must be solved: problems of research and techniques, the cost of which is fabulous; problems of construction, coolants, waste disposal, etc.; and problems of national security. For in many cases the atomic counterpart of the ashes discarded by steam plants will be fissionable materials, the most powerful explosives known to man.*"

first practical working prototype is in operation, then the matter of capital costs can and will be seriously attacked. If previous history is any indication, good research development and engineering skill will effect radical reductions. Operating costs will probably be high in the first instance. Only the future can tell about the cost of fuel. If exploration for large deposits of uranium is successful, which is a reasonable hope, operating costs for fuel can be pulled down into the practicable range. This is a question which only time and effort can solve and effort is being expended in search. Labor costs on nuclear reactors will tend to be high at first, but as we work from the experimental zone it should be lowered gradually. When it comes to depreciation and obsolescence, we can expect to have very high rates at first and have no reasonable hope of expecting ever to get down to the low rates applicable to hydroelectric power production."

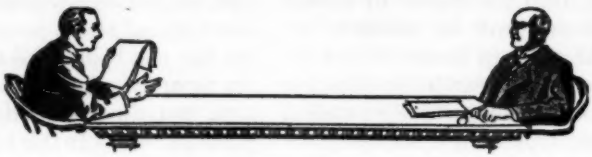
Hafstad Also Cautious on Cost

LAWRENCE R. HAFSTAD, director, AEC Division of Reactor Development, is very cautious in approaching the economic possibilities of atomic energy. He does not look for any revolutionary savings, even if the supply of fissionable material is greatly expanded. In addressing the Society of Automotive Engineers this year, Mr. Hafstad ventured some not-too-encouraging estimates, saying, "Let us assume that the cost of uranium fuel is zero, that peace unexpectedly breaks out, and that fissionable material is available as war surplus! Then reminding you again that all we produce in a reactor is heat, you will note that all we can replace with nuclear energy components in the conventional steam power plant is the fire box and boiler. All the heat transfer apparatus, the turbines, the generators, and the distribution system remain the same. In this regard, a rough figure to carry in mind is that even if power could be put on the bus bars at the central station at zero cost, the costs of distribution are such that the cost to the consumer would be reduced only by 25 per cent to 35 per cent. The fondest hopes for civilian atomic energy must therefore be expected to produce savings somewhat less than this and can hardly be expected to be really revolutionary."

Large Reactor Most Promising For Utilities

As to where we may look for the first industrially applicable use of atomic energy, Mr. Pike has stated:

"The heavy shielding required for protection against health hazards would seem to eliminate in the present state of knowledge any use of atomic power for small, mobile units. But for a use like that of ship propulsion where the added weight of the plant might be more than offset by elimination of vast quantities of fuel for long voyages, atomic power looks quite promising. One would be inclined to guess that, at first, successful use might come for naval propulsion where the ability to keep at sea for long periods without refueling might well outweigh higher unit operating costs. For use on land, considering the weight and bulk of the necessary installations, a large reactor comparing in output with some of the largest central stations now being built, would have the best promise of rea-



No Quick Transition to Atomic Power

"BEFORE we have public utilities using atomic energy, enormous technical problems must be licked and, what is just as important, costs must be tremendously reduced. From what we have seen to date present sources of power are not likely soon to be endangered by atomic competition."

sonable costs. In such a case it would come into direct competition with present sources of power. If it ever is to compete at all it is clear that where coal or its equivalent costs $20 a ton, atomic power will be used long before it will be considered in areas where coal costs are $6. To try to look farther ahead gets us more and more into a fog."

Still Many Years Away

DR. ENRICO FERMI of the Institute for Nuclear Studies, University of Chicago, formerly with the Manhattan project and later a member of AEC's general advisory committee, stated in July, 1949:

"At the end of 1946 one thing was clear, and it is clear now, that energy could be produced—after all energy had been produced. It was not clear to anybody how energy could be produced in an economical way except for the fact that it was the general consensus . . . that the problems would be solvable . . . There has also been a certain overemphasis built up as to the immediateness of this program, through statements of people who thought they were informed and, perhaps, were not extremely well-informed.

"The reactor problems indeed were more difficult than had been estimated and, unfortunately, complete solutions are not yet available. In spite of that, I would want to go on record with the statement that very substantial progress has been made in ironing out that great mass of detail which, in a technical problem of this magnitude, constitutes the core of the development. . . . I do not expect extremely startling industrial results for at least very, very many years to come, but I am reasonably confident that progress will come and that there will be in the not too distant future something more concrete to point to than general technical progress."

Dr. Fermi's appraisal of the commercial possibilities is in general shared by Philip Sporn, president of the American Gas & Electric Service Corporation. Last fall Mr. Sporn

prophesied that we may have a reactor producing electric power in from six to ten years and some commercial generation of nuclear power within another four or five years after that, but only in the sense of more or less regular operation day in and day out. Mr. Sporn cannot imagine nuclear fuel as a significant competitor of coal earlier than fifteen to twenty-five years from now.

If the Atom Works, What Next?

LAST year, in addressing the National Coal Association, Mr. Sporn offered some interesting conjectures as to the possible effects of cheaper power on different industries, assuming what cannot certainly be assumed at this stage, that the cost of atomic power will be right. From Mr. Sporn's address we quote:

"In the event that cheaper electric power can be achieved through the use of atomic energy, several industries might well be stimulated. Examples are: reduction of magnesium and aluminum, refining of copper, production of cement, chlorine, and caustic soda, electric furnace operation like the production of graphite, carborundum, calcium carbide, phosphoric acid, ferro-alloys, and electric steel. All these operations are characterized by a high figure of kilowatt hours per week per worker and a relatively low figure of wages per kilowatt hour used.

"To put it another way, power costs in these industries represent a substantial percentage of total cost—as contrasted with a relatively minor percentage in most industries—so that any appreciable reduction in power costs will materially reduce cost of product. The resultant application or use is bound to be stimulated. . . . The displacement of other forms of energy by atomic energy in such industries will be indirect—atomic fuel will displace coal, or gas, or oil in new plants, or in rebuilt old plants; or white coal in hydro plants that might otherwise be built.

"Some new electric processes might also be developed if atomic power is cheap enough: electric melting of general purpose glass, for example; or direct reduction of iron by electric processes; certain kiln operations might be electrified.

"Whether or not atomic power will stimulate these existing processes or encourage the developments of such new ones will depend on cost. Now what are the major economic factors in a nuclear reactor as an electric power producer? You will recall that in a nuclear reactor, we burn uranium or plutonium with neutrons, and I am going to assume that 'breeding' has been successfully developed. When that has been accomplished, one pound of ordinary uranium will be able to do the work of 1,500 tons of 13,000 BTU per pound of coal. Under these conditions, the direct fuel cost will approach the cost of white coal—almost zero.

"IF the cost of generating power were dependent only on the price of fuel, here would be a power Utopia, indeed. But the processing of the fuel will involve elaborate and therefore relatively expensive chemical operations. And so, the capital costs of the chemical plant, the nuclear reactor, and the steam and electrical portions of the complete atomic power plant are bound to be the dominant

portions of the cost of electrical energy at the point of generation. . . . The total cost of electric energy at the switchboard will have to include some operating and maintenance costs and some value for cost of fuel. At best, it may be substantially zero. But the actual costs of fuel can likewise not be estimated with any accuracy until the breeding phase of the present reactor program is more fully developed.

"These two unknown factors constitute the principal barrier to any sound engineering appraisal of the economics of nuclear fuel utilization: lack of engineering knowledge on many phases of reactor design, construction, and operation, which makes it impossible to estimate the capital costs of a reactor plant—and lack of knowledge and practicability of breeding, which makes it impossible to estimate the fuel costs."

Conclusions

OUR review of the published statements of various experts in the field leads to the conclusion that the use of atomic energy in commerce and industry lies in the indefinite future. For the present, research and experiment in the field of fission must concentrate on military ends exclusively. Any industrially applicable results of the work will be by-products.

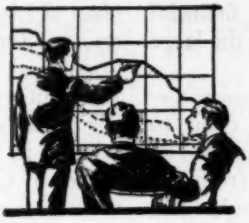
While the Russian atomic explosion has removed the need for much of the secrecy that has heretofore been official policy, if Mr. Lilienthal is right there must be new legislation before private enterprise will be tempted to take up the atom as a source of electric power. Our industrial and military history shows that this country's technical advances have come, not out of government laboratories but from private profit-seeking efforts. Barring an unforeseen end to the international political impasse on the atom bomb, it may be a long time before the Congress follows the former AEC chairman's advice.

The consensus of those close to the work on the atom in this country is that atomic power for industry sometime is likely, but that it is yet many years away. However, the very preoccupation with military aspects and the intensification of the disturbed relations with communist nations may produce unforeseen progress in the nonmilitary applications, including power.

Before we have public utilities using atomic energy, enormous technical problems must be licked and, what is just as important, costs must be tremendously reduced. From what we have seen to date present sources of power are not likely soon to be endangered by atomic competition.

"THE trouble with these planning gentlemen is their obsession that decisions must be made consciously by some individual or some group and these decisions, they think, determine the future. The real situation is that in the free market decisions are not made by someone looking into a crystal ball. They are made by everybody and the managers of enterprise, big and little, adapt and adjust themselves."

—EDITORIAL STATEMENT,
The Wall Street Journal.



Intramural Problems in Nebraska's Public Power

Nebraska, the nation's all-public-power state, presents an interesting paradox in public ownership development. Apparently the lowest electric rates are being offered by municipalities which are not a part of Nebraska's public power system, but which have their own independently operated facilities. Municipalities which are not part of the Nebraska public power system, but which have their own independently operated facilities, claimed, therefore, lower rates than some members of the system. This author, a veteran Nebraska editor, gives us some background on problems which have grown up within the orbit of Nebraska's public power development.

By HARRY T. DOBBINS*

THE shifting financial fortunes of the Nebraska Public Power System have brought into focus a situation unparalleled in the field of public utility operation. The customers of what is generally called "the system" include the Consumers Public Power District, twenty-seven borrowers of the Rural Electrification Administration (commonly called the "rurals"), and eight municipalities. These are all members of the system's management boards. In these boards rests the ultimate authority to determine the expenditures of the system and what financing programs should be adopted to provide future capital. In operation this means they have a controlling influence in the fixing of the rates charged for service to them.

In return the Consumers and the rurals have agreed to guarantee the financial stability of the system, which carries a bonded debt in excess of $50,000,000, by paying the full cost of production of the power purchased by them, including depreciation.

Economic conditions compelled the making of this pact. The customers were faced with mounting demands for current which the system was unable to fully meet. It sought to relieve the situation by borrowing $10,000,000 of private capital, giving a first lien on revenues, to build a steam plant at Bellevue on the Missouri river, but ran out of money before this could be completed. In its operations it was not earning a sufficient sum to meet all of its obligations, and because

*For personal note, see "Pages with the Editors."

of this and its checkered financial career was unable to borrow the large sums necessary.

Consumers and the rural power districts decided the time had come to take over if they were to be assured of an adequate power supply from the only sources to which they could turn.

AFTER months of negotiation, a 10-year plan was worked out by which the system's financial structure was rehabilitated and the necessary additional funds made available. This contained provisions for a fluctuating cost of service yearly adjustment so that the system's revenues would be adequate to cover all operating expenses and leave net revenues before depreciation equal to 1.35 times the annual debt service cost, the .35 additional coverage being available for renewals, replacements, and minor plant extensions.

To relieve the pressure upon the two districts, the Federal Works Agency reduced the interest rate on the $20,300,000 of bonds it held from 4 per cent to 2.50 per cent and took an open-end mortgage. The Rural Electrification Administration loaned $8,412,000 at 2 per cent, with a provision that if the system had to pay a higher rate for other capital its bills should be credited with the difference in rates. Refinancing was completed by borrowing from eastern bonding syndicates, which had previously loaned $10,000,000 to construct the Bellevue plant, an additional $14,700,000 at 3.25 per cent interest.

The proceeds of these loans are being used to increase production capacity of the Bellevue plant to 90,000 kilowatts, enlarging that of a plant at Lincoln leased from Consumers, and for the construction of additional and larger transmission lines. Paid out of them also was $800,000 for the interest of Central Nebraska District in the system and $1,000,000 loaned by Consumers to keep Bellevue construction going after the proceeds of the private loan had been exhausted.

Management of the hydro plants is in the hands of two groups, the budget board and the planning board. The former board is made up of the executive director and the controller, both of them appointed by the two hydro districts making up the system, and the three largest buyers, meaning Consumers, rurals, and municipalities. The planning board of five is made up of two representatives of the hydros and three of its customers. Through their control of these two boards the customers fix the amount of the annual expenditures which in turn determine their rates, as well as protecting themselves against unwise planning in connection with expansion of facilities and mismanagement.

THE one unhappy member of the customer trio is the group of municipalities, eight in number, four of which supplement their own production by system purchases and four buying their all. While given membership on both boards these municipalities are denied voting power in budget making until their combined purchases are 15 per cent of system production. At present they buy 8 per cent. They also claim to be discriminated against, because in the operation of the rate schedules they pay the highest rate.

Spokesmen for the municipalities say that the negotiations which brought about the present setup were conducted with such secrecy that they did not discover what was going on until months had passed and then only by accident. They said out loud that unless complete coöperation were established between the various agencies the state would be certain to take over and combine them into a single agency.

After numerous conferences a compromise was effected, but when the municipalities discovered that REA was offering to sell the city of Broken Bow, at less than the system rate charged them, they summarily ended negotiations. They followed this up with an application to the Interior Department for separate allocation of power from the Bureau of Reclamation. The bureau had previously informed the warring parties that it was obligated to distribute energy from the gigantic Fort Randall installation to whatever public power groups made application, even though this meant construction of competing lines into and in the state.

THOMAS R. PANSING, chairman of the power committee of the League of Nebraska Municipalities, points out that Fort Randall power will cost only 5.5 mills per kilowatt hour delivered at Columbus, the site of the Loup river development, and to this cheap rate would be added a portion of the very substantial cost of hydro financing. He quotes bureau officers as saying in Iowa and South Dakota, where private companies will likely end up by transmitting power to rural districts and municipalities, the ultimate cost of Fort Randall to the retailing agency will be substantially less than in Nebraska, where the service is performed by public agencies alone. He says this thought is distasteful to the bureau officials who are justly proud of their cheap power.

There are three basic rate schedules. One of these fixes rates for noncost of service sales to any electric utility service. Consumers operates under the optional rate of $1.50 per kilowatt of billing demand, with monthly energy ranging from 10 mills for the first 25 kilowatt hours to 3.50 mills for all over a million kilowatt hours. As its demand is around 30,000,000 kilowatt hours per month, the 3.50 rate applies to all purchases.

The third schedule was specifically set up for rural district purchases. It is like that used by Consumers in that it fluctuates with the cost of service, but differs in that the rate does not vary with the volume of power purchased each month from the 3.5 mills charge regardless of the size of demand.

Adoption of this schedule has increased the rate charged Consumers

¶ "RURAL *electrification in Nebraska has been rapidly expanding, and at the present time approximately $80,000,000 of the $100,000,000 earmarked for the state has been expended in serving in excess of 65,000 farms. In addition it supplies at wholesale several small isolated communities.*"

from 7.188 mills to 8.482 mills; that of the rurals from 8.777 mills to 10.20 mills; and that of municipalities from 10.7 mills to 12.67 mills. In turn this forced Consumers to readjust rates to a number of the municipalities it serves.

This has resulted in a strange situation: *The lowest rate towns in Nebraska are those which are not a part of the Nebraska Public Power System, but those which have their own independently operated, highly efficient municipal facilities. Approximately 60 cities and towns are not connected with the system. They supply their own demands.*

THE accuracy of the rate formula is attested by the report of operations of the system for the first three months of the year. It has gross revenues of $1,799,463, net operating revenues of $564,416, and expended $572,153 for debt service. The deficit of $7,707 was largely caused by coal purchases in winter months.

For construction of the three hydroelectric plants approved in the early thirties the Public Works Administration contributed a cash grant of $25,000,000 and loaned $45,000,000, taking a 4 per cent 40-year bond issue as security. When they were finished the cost was so great that the operators were unable to interest the private companies in the rates they had to charge to make them going concerns.

The Platte Valley Public Power and Irrigation District was the first one to be completed. It was financed by a Federal loan of $9,775,000 and a cash grant of approximately two millions. It has a built-in capacity of 26,310 kilowatts. In addition to manufacturing power it supplies water to several existing large irrigation districts. Subsequently, it acquired electric distribution facilities at McCook and Gothenburg which it operates as separate financial entities. Shortly after the main plant was finished a huge siphon broke and it cost a million dollars to replace it.

Loup River is purely a power project, the profits of which were to be used in helping reduce irrigation costs elsewhere. It was financed by Federal loans totaling slightly in excess of $10,000,000 and a cash grant of $4,900,000. It has a generating capacity of 48,150 kilowatts. Operation has been greatly hampered by siltage, and dependence is largely on river flow.

When these two were completed spokesmen for the private companies then supplying approximately 87 per cent of the state's demand announced that as their own demands increased they would utilize hydro production instead of adding to their own facilities and to save on fuel costs.

SHORTLY after these two developments were begun the late Senator George W. Norris, implacable foe of the power companies, intent on driving them out of business in Nebraska, entered the picture. Through his influence with the Federal administration during the first and second Roosevelt administrations, he secured Federal funds to the extent of $36,000,000. Forty per cent of this was a cash grant, for the construction of Central Nebraska Public Power and Irrigation District. It has a rated capacity of 54,000 kilowatts. This plant was completed in 1941.

Its original cost was increased by

Local Control of Public Power

"Although the publicly owned electric facilities are statewide, they are not owned by the state, nor is there any state or other centralized authority exercising control. These are owned and managed by the more than thirty districts, each of which is a complete independent legal entity and without any legal connection with one another save as where they have entered into voluntary contracts."

several millions, expenditure of which was made necessary to take care of threatened damage from wave movement on its 23-mile long and 4-mile wide reservoir lake. It was constructed to provide water for 500,000 acres of farm land, but a supreme court decision forbidding diversion of Platte river waters into the Republican river watershed, limited it to 200,000 acres, of which 84,000 acres are being served.

Under pressure from the Federal Works Agency, their creditor, the three districts established in 1940 the Nebraska Public Power System. Each retained its separate legal entity, but their operations were integrated, all power being placed in a single pool and sold from it. After paying operating expenses and interest the residue was divided among the three on a debt service basis.

In the spring of 1949 Central Nebraska withdrew from the system and now operates as a separate unit. The directors took the position that it could not properly develop local irrigation areas while remaining as a part of a general electric generating and distribution agency miles away. It contracted to sell to the system its production at a rate of 6 mills. This gives it an annual power income of approximately $1,500,000, sufficient to pay interest and principal instalments on its government loan, which also bears 2.50 per cent and operating expenses, leaving a reasonable margin for development of additional irrigation areas. It had irrigation revenues in 1949 of $213,000.

With only skeleton revenues the system was unable to meet the obligations of the original 40-year bond issues. In 1944 these were refinanced on

a 60-year basis, with interest rates fixed on a sliding scale beginning with a fourth of one per cent, averaging 4 per cent over the period.

CONSUMERS PUBLIC POWER DISTRICT was organized in 1939 to acquire private companies and thus create a market for the hydros which, until that time, had little success in marketing their output except as dump power replacing fuel generation and yielding relatively low rates insufficient to meet their financial commitments. Between then and 1942 Consumers purchased fourteen of the private companies, then under the threat of the Holding Company Act, at more than generous figures in most instances.

In payment for the purchases, bonds were issued and sold to private bonding syndicates in the sum of $45,000,000. Later these were refunded, and now bear an interest rate of a little over 2 per cent. Through retirements and including new improvement bonds issued, the total outstanding at the end of 1949 had been reduced to $39,554,000.

Revenues for 1949 were $10,063,249, an increase of 8 per cent over the preceding year. Net revenues were $1,288,307, available for bond retirements and additions and betterments. Bond redemptions in 1949 totaled $1,021,000.

The district serves over 103,000 customers in 356 cities and towns, 57 of them at wholesale.

Through the purchase of private company properties, Consumers acquired production facilities aggregating 50,000 kilowatts, and promptly leased four-fifths of this capacity to the system for $270,000 a year. Half of the remainder is kept in production and the remainder is in stand-by condition.

Nebraska Power Company, which supplied Omaha and surrounding territory, held out until December, 1946. Then its properties were sold to a locally organized district for $43,000,000.

The Omaha District has never had any substantial concern with the general power arrangement for the remainder of the state. It has a large generating capacity of its own, and is expanding this to the point where eventually it will have no need to make outside purchases. At the present time it has a contract to pay $40,000 a year for system current, and to supply the latter in the event of emergency.

The district has an outstanding bonded indebtedness of $52,000,000, carrying rates ranging from 1.5 per cent to 4 per cent for short-term issues. In 1949 it had revenues of $13,202,000, and net earnings of $2,314,000. It paid $985,000 in lieu of taxes. It serves 92,000 patrons.

RURAL electrification in Nebraska has been rapidly expanding, and at the present time approximately $80,000,000 of the $100,000,000 earmarked for the state has been expended in serving in excess of 65,000 farms. In addition it supplies at wholesale several small isolated communities.

A threat to the continuance of the present setup is contained in the preview of plans for the Bureau of Reclamation which contemplate construction of a large network of hydroelectric plants in connection with the con-

struction of the Nebraska section of the Pick-Sloan Missouri basin development. It entered the picture years ago when it built dams in Wyoming in connection with Nebraska irrigation works, and from these it now supplies electric energy to the western system of the Consumers, unconnected with its eastern operations.

Its new plans contemplate the abandonment of the main generating plant of the Loup River Public Power District. Reclamation engineers propose a substitute plant located at another point as being more efficient and enduring, since silting at the Loup river development has become a major threat to its continuance as a full production unit. As the Reclamation Bureau has a record of insisting upon occupying the driver's seat, the specter of an all-powerful Federal agency looms.

In spite of the fact that the main purpose of those responsible for the state's entry into the field of public power was to develop hydroelectric energy in connection with extension of irrigated areas, the use of steam power to insure steady flow of current is rapidly increasing. This is attributed to the damage from silt and seepage that threaten continued production and place limits on the amount of power the hydros can supply.

At the present time the state's electric demands are supplied on the basis of 30 per cent hydro generation and 70 per cent steam. When the new steam plants get into full production the percentages will be 25 and 75 per cent.

ALTHOUGH the publicly owned electric facilities are statewide, they are not owned by the state, nor is there any state or other centralized authority exercising control. These are owned and managed by the more than thirty districts, each of which is a complete independent legal entity and without any legal connection with one another save as where they have entered into voluntary contracts.

All are organized under the same law, and one may be set up by a vote of 15 per cent of the voters living in any political subdivision, no matter how small, and are authorized to operate both within and without its immediate territory.

While the hydros, by supreme court edict, are tax-free, the Consumers and Omaha districts are required by law to pay the same amount as was assessed against the properties while in private hands, but pay nothing on added properties. Freedom from Federal taxes and other imposts formed a large factor in their ability to carry on in the past a policy of rate reduction.

R. L. Schaht, general manager of

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Consumers, estimates that the reductions put into effect in the last ten years represent a savings to patrons of $1,107,267 a year compared to those in effect when the private companies were in operation. In 1949 the Omaha District put into effect new rates totaling $1,250,000 less a year.

How heavily tax exemptions weigh may be inferred from the fact that the national average of taxes to operating revenues is 19.25 per cent, while that of Consumers is but 3.2 per cent and that of the hydros .24 per cent. These compare with 19.5 per cent for the Public Service Company of Colorado and 20.5 per cent for Iowa Power & Light Company in adjoining states. Taxes to utility plant are .7 per cent for Consumers, 5.9 per cent for Public Service, and 5.4 per cent for the Iowa Company. Taxes to net income —Consumers 11.2 per cent, Colorado 121.3 per cent, and Iowa 90.5 per cent.

THE setting up of a complete public power grid came about without any preconceived, ordered plans, without any concerted public demand, and without a vote of the people. It was the by-product of legislation secured in 1933 by irrigation-minded farmers in the central section of the state who were sold on the idea that costs of getting water to their lands would be greatly lessened by power revenues. This legislation set up the necessary machinery, thitherto lacking, for financing construction from Federal funds waiting to be borrowed for make-work purposes.

The primary purpose was to lessen the costs of irrigation through profitable power operations. Under the present setup the system earns no profits by reason of its agreement to sell all production at cost.

The amazing paradox of the entire program is that while the title to all of the properties involved rests in the public and that by law can never revert to private ownership, it owes its present operation as a going concern to private capital investment, almost entirely in the form of revenue bonds.

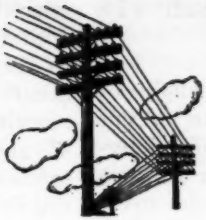
Including the hundred million borrowed to finance municipal plant construction, private capital contributions total $240,000,000 and Federal loans $160,000,000.

Helping the Worker to a Better Life

"INDUSTRIALISTS *have done an excellent job of managing the physical factories, but they have neglected the job of managing the spiritual or phantom factories which also exist.*

"In the physical plant men work to earn a living, but at the same time in the phantom plant they work to make a life. . . . Our greatest assets are the men and women who work in our plants. How weak we are as managers if, able as we are to manage the physical plant, we prove incapable of providing the kind of leadership that can help these men and women to find in our industries the kind of life they need."

—WALLACE F. BENNETT,
President, National Association of Manufacturers.



Private Communications for Public Education

The average person casually thinks of the telephone in terms of conventional service. Not so generally known, however, is a large body of supplementary communication services. One little known but notable application gaining wide acclaim is the adaptation of the office intercommunication device for educational purposes.

By FRANKLIN J. TOBEY, JR.*

RENEWAL of war activities has once again brought the spotlight of military and civilian attention to the broad field of communications. The importance of communications in military activity is underlined in every dispatch from the fighting front. But this has always been so since the beginning of military history.

What may be overlooked, in the sudden wartime application of new techniques in well-known forms of communication such as the telephone, are the practice and research that have been going on for years for ordinary peacetime civilian special communication services. When a multi-starred officer at the Pentagon building takes his telephone in hand, to address a suddenly organized conference of dozens of other high-ranking officers in scattered spots over the country, and perhaps on foreign soil, he is using the same type of facilities which the communications industry has worked out for peacetime business conferences. It is the same type of equipment, perhaps, being used for even such an important but far more peaceful purpose as the education of our children.

The average person may casually think of the telephone as a stereotyped central station service conducted upon a company-subscriber relationship basis, for which he is eventually to pay his monthly bill. It is not so generally known, however, that beyond the immediate and customary service of the telephone company, there has grown up a large and important body of supplementary private

*Associate editor, PUBLIC UTILITIES FORTNIGHTLY.

communication services, each with their own special facilities.

THREE better-known examples of communications systems of this general type are (1) the office intercommunication system, the business manager's step saver, (2) the voice-paging communication system familiar to every person who has had reason to step inside a hospital, and (3) the industrial music system which has come into vogue in many establishments where the nature of the work, and the job surroundings, will permit.

A fourth and more recent variant is one with special educational applications. School attendance by wire is one of the latest developments in this line. It permits the child in a wheel chair, and even the child confined to bed, although miles away from the schoolroom, to be in full-time class "attendance." He may hear his teacher instructing and questioning the other pupils, his classmates' replies, and he may recite when called upon in turn.

This aid is an adaptation of the ordinary commercial intercommunication system. An instrument resembling a small radio set is placed in the child's room. A similar instrument is placed in the schoolroom, either on the teacher's desk or in any other convenient location. The two are joined by means of wires leased from the telephone company. Executone, Inc., has pioneered in this field and now manufactures this equipment exclusively for the telephone companies of the Bell system.

The unit for the student's home is a 7″ x 7″ x 5″ walnut-finished cabinet weighing under five pounds and is installed near enough to permit easy operation of its switch. It is equipped with a cord and plug for connection to the domestic electric supply. The classroom pick-up and reproducer unit, contained in a metal housing 6″ x 6″ x 4″ and weighing but four pounds, terminates in a cord and plug permitting its connection to a receptacle wired to the school amplifier unit which may be in any convenient location. No commercial power is required for this unit. Such an arrangement permits moving the unit from one schoolroom to another as occasion requires. Each room is equipped permanently only with the receptacle wired to the amplifier. In both the home and classroom sets, a single unit serves as both microphone and loud-speaker.

THUS an amplifier and a combination loud-speaker-microphone is provided both in the school and at the bedside of the student, connected by a wire leased from the telephone company. Speech can flow in only one direction at a time. This is normally from the school to the student. By operating a listen-talk switch on his loud-speaker set, the student can reverse the direction of the speech flow to permit his recitations or comments to be heard in the schoolroom. As soon as the student is through talking, he releases his switch which returns to the normal listening position. The school amplifier unit, mentioned above in connection with the classroom unit, is larger than the other units, since it includes a relay that reverses the direction of the amplifier under control of the switch at the student's end. It derives 50 volts DC from the commercial power supply for operating the control circuit.

Use of this system is not limited to a single student. Where more than one home-bound student is to take part in the class work, the private telephone lines are multiplied at the central office. Under these conditions, all out-students hear what goes on in the classroom and also are able to hear the other home-bound students speak.

The development of such a system was an interest of the Bell Telephone Laboratories before World War II, but the project was interrupted during that period due to a shortage of equipment and communication facilities. After the war the project was revived. Bell system companies have been informed by American Telephone and Telegraph Company of the availability of this auxiliary service and as to its capabilities and field of use. The rates for this service vary slightly in different areas, usually in the neighborhood of $15 per month, depending upon the distances involved. Installations are made for periods of not less than six months and there is a moderate initial installation charge. The service has proved especially valuable to students of high-school age. Here, the shifting from one classroom to another, as is frequently the case, does not result in an educational "blackout" for the shut-in student. As the class moves from one room the school station is disconnected and carried to the next class on the student's schedule where it is plugged into the nearest prewired outlet. Contact is reëstablished immediately upon resumption of school work.

HAVING spent two months last summer in an orthopedic hospital, this writer can report, at firsthand, on the educational problem presented by poliomyelitis, or infantile paralysis, as it is more commonly known. The county supplied a teacher who came to the children's ward several times a week, if not daily, and conducted "classes." She had to work virtually on an individual basis, giving new assignments and passing on work assigned earlier. It is a most difficult job. The teacher in a hospital usually finds herself faced with the task of teaching children from widely different backgrounds. Their ages are varied. Their school attendance has been irregular. They frequently have personality problems more complicated than other pupils.

This is not to belittle this good work; hospital teaching can be unusually rewarding, in spite of its difficulty. The teacher can do much to bring security to the child, and keep

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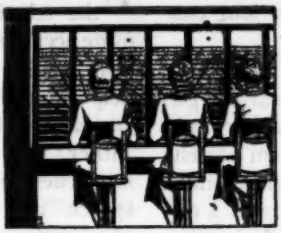
him from worrying about falling behind in school. She can introduce to the child who has experienced school, one thoroughly familiar feature of his previous life, perhaps the most familiar the hospital has to offer—the school. And she can give him something to think about besides his illness. This is an important phase of the psychological treatment for the polio victim, or for that matter the rheumatic fever victim. When the child has become an out-patient this advantage could easily be lost and personality damage result, if there were nothing to fill this void in the shut-in's existence at home. In some places full-time or part-time teachers are sent to the homes of handicapped children. If there are many such in a given locality this can be a very expensive undertaking. The two-way system of telephone communication fits nicely into this situation and in many cases its introduction produces economies in such special educational programs. This may solve embarrassing problems for school authorities who do not have sufficient funds to provide proper coverage with visiting teachers, especially in rural, widely scattered areas. The visiting teacher cannot be entirely replaced by this technological development nor is that the intention, but fewer personal visits would be required and one teacher could therefore serve more students, thus relieving the acute shortage of visiting teachers.

At the same time the benefits to the child of daily contacts with his classmates are tremendous.

THE home instructor can spend at a maximum about five hours per week with each student and as an average much less. Between visits there is either listlessness or uninspired self-study. Use of the remote control system is a near substitute for actual class attendance, with the benefits of complete curriculum, daily instruction on the same basis as other students, and the satisfaction of "belonging"; of being a participating member of the class group. Where the system has been given a thorough trial, marked therapeutic values are reported, mental stimulation and emotional release replace lethargy and sense of confinement.

THERE are, of course, limitations to the use of the device. The plan would very likely not be effective in the case of a child of such immature years or mentality for whom it would be an impossibility to visualize classroom procedure, or to interpret instructions or discussion as heard over the teaching device. From a more basic mechanical standpoint, the shut-in's home must be electrically equipped and within feasible distance of telephone connections.

This new plan for providing homebound children with classroom-type instruction full time merits investigation and at least experimental installation on the part of school authorities, in the view of educators who have given it a thorough trial. The method already has spread to the states of California, Louisiana, Minnesota, Nebraska, Texas, Oklahoma, Illinois, Michigan, Wisconsin, North Dakota, Wyoming, Kentucky, Pennsylvania, and Delaware. Many boards of education are now applying to state and city governments for appropriations for this purpose.



City Gets Interested in Shut-in Education

"A special educational program using the school-to-home equipment is to be tested this coming fall by the city of St. Louis, Missouri. The program, which will keep shut-in public school students in daily touch with their classes through the two-way telephone communication device, is estimated to cost about the same as that involved in the present system of sending 18 full-time or part-time teachers to the homes of convalescing students. The present cost . . . is about $400 per pupil."

The state of Iowa was the first to adopt this new method of special education under the original sponsorship of W. A. WinterStein, director of the state's special education division. In an article appearing in *The Crippled Child* magazine, October, 1949, issue, J. M. Parker, Iowa state superintendent of public instruction, and W. A. WinterStein state:

> The mental and spiritual stimulation that instills the will to live and fight, and contributes so much to eventual recovery is enhanced by the electronic school-to-home system which brings the shut-in child's classroom right to his bedside. The shut-in students become so enthusiastic that they participate in school events with an intense vigor that relieves their overburdened minds and bodies of the weight of physical ailments.

In the ten years since this system of instruction was pioneered in Iowa, according to WinterStein, 1,000 children have received all or part of their education via school-to-home equipment. Three high-school students became victims of the 1940 polio epidemic. Using two-way teaching equipment each was able to carry a full load of school work. Each in a separate community led his class in scholarship. One Mason City boy, who never saw the inside of his school, so won the respect and admiration of his classmates that they elected him president of his class.

A Des Moines high-school girl contracted polio in 1944 and became so incapacitated that her schooling would have been ended except for her good fortune in obtaining the use of a school-to-home system as soon as her doctors said she could safely be active again. In June, 1948, she graduated without ever visiting her school in per-

son. The electrical teaching device helped lift the strain of her long confinement from her family.

At Clinton, Iowa, a 10-year-old girl fell from a cliff and was seriously injured. Her elaborate system of casts kept her in bed for over eight months. Nevertheless she hardly missed a day of her fifth-grade class work, keeping in constant contact through this electrical system.

Another girl, a sixteen year old on a farm at Ottumwa, Iowa, was prevented by arthritis from leaving her home. Her two-way teaching system, originally installed when she was twelve years old, required 1½ miles of special telephone line construction as her farm had no previous service connection. Later, to connect her with junior high school, another two miles of poles and wire had to be erected. Her parents, the school authorities, and the telephone company, all felt it was well worth the special effort, however. The girl maintained honor grades throughout this schooling-by-proxy.

Another lad, with an electrical teaching device provided by the superintendent of parochial schools of the Catholic Diocese of Des Moines, kept up with his class at St. Anthony's school in spite of confinement to bed with an acute hip infection.

The Minnesota Society for Crippled Children and Adults provided a boy in Blue Earth, Minnesota, who was a victim of cerebral palsy, with a school-to-home system. While he was a grade-school pupil and all classes were conducted in the same room, he was able to go to school. Now he "attends" his high-school classes by wire and is a consistent A or B student.

Incidentally, it will be recalled that the telephone itself was invented quite accidentally during experimentation with a "Phono-Autograph" to help guide the deaf in proper speech. In fact, Alexander Graham Bell's father, Melville, in Edinburgh, Scotland, devised a method of "visible speech" and Alexander's grandfather, also an elocution teacher, was particularly interested in stammerers and students suffering from various speech defects. Thus, the aspirations of three generations of men, whose lives were devoted to aiding the handicapped, have been fulfilled with this new method of special education which utilizes the facilities of the modern telephone.

One of the original Iowa students who "pioneered" in the use of the electrical school-to-home equipment is Verna Slaughter. Stricken with polio in 1944, Verna has used her bedroom as a classroom since 1945. She has graduated from high school with the aid of this device. She is one of several students using the system in Des Moines. "It was all pretty strange at first," she recalled. "But once you get used to it, it's much easier than going to school. You just sit up in bed and turn the dial. You don't have to get up—or worry about what to wear." The system Verna used as a high-school student was installed with the aid of her father, V. W. Slaughter, an employee of the Northwestern Bell Telephone Company.

Tommy Jones of Kewanee, Illinois, was stricken with polio when he was a student in the eighth grade of Visitation school in Kewanee. He did a part of his ninth-grade work at St. Francis hospital in Peoria and after his return to Kewanee through tutors sent to his

home from among the members of the Kewanee High School faculty. His tenth and eleventh years' work were done through similar methods. During his final year the school-to-home equipment was provided. Tommy took the following subjects: college English, second-year Latin, contemporary literature, and junior business training. Through the use of the intercommunication unit he was even able to take part successfully in assembly programs, including school contests offering prizes for properly answered questions. Tommy graduated on June 2nd of this year.

A SPECIAL educational program using the school-to-home equipment is to be tested this coming fall by the city of St. Louis, Missouri. The program, which will keep shut-in public school students in daily touch with their classes through the two-way telephone communication device, is estimated to cost about the same as that involved in the present system of sending 18 full-time or part-time teachers to the homes of convalescing students. The present cost, according to Schools Superintendent P. J. Hickey, is about $400 per pupil.

According to *The Telephone News*, which carried an article late this spring on "Shut-ins Taught by Telephone," recent installations have been made in Washington county, Pennsylvania, and at Clarion, and Wilmington, Delaware. Here both telephone officials and state educators are watching the results. Douglas Bowman, supervisor of special education for Washington county, Pennsylvania, termed it an important forward step in view of the growing recognition that education must parallel medical treatment of the home-bound child.

THE first public demonstration in New York city of the two-way communication between school and home via telephone wire, was made from the stage of the grand ballroom in the Hotel Commodore and the Washington Irving Public High School one and a half miles away. On the stage in the ballroom, Ann Louise of Milford, Connecticut, a polio victim, actively participated in a history class at the school via use of the speaker-microphone intercommunicating system. The demonstration was made during the annual convention of the National Society for Crippled Children and Adults. Ann Louise was brought from Connecticut for the convention by her state society which has coördinated its efforts with those of the National Foundation for Infantile Paralysis and other local agencies to assist in the rehabilitation of the handicapped. The demonstration marked the first time such equipment was being generally made available through telephone companies on a rental basis. It was made possible by the New York Telephone Company, the Bell system, and Executone, Inc.

One of the speakers at the convention, Dr. John J. Lee, dean of the Graduate School of Wayne University (Detroit) and president of the National Society, said:

> One of the devices which the National Society has found helpful in the education field of equipment to work with teachers and to keep the child in contact with his classroom and classmates is this school-to-home communication system. It is sponsored by the National Society as part of its program

to develop new services and extend and supplement existing services, thus filling — not replacing — the unmet needs of handicapped children.

The new setup with the telephone companies, which now make it available on a rental basis, offers many possibilities in the future for states where educational programs for handicapped children have not been developed because of lack of funds, Dr. Lee stated. "We are striving," he added, "to make this special education project available to more children at home, in convalescent homes, and in special instances in hospitals."

How far such an aid may be applied to similar or paralleling circumstances is a question which is raised by the case history of Bobbie D. Gridley. He "attended" school through use of the two-way telephone communication device in February, 1948, in the eleventh grade at East High School, Des Moines, Iowa. He is now a graduate and is interested in the study of law, and wants to make that field his life work. A friend has loaned him a set of law books which he has read from cover to cover. Part of the time in high school he was able to attend classes through the use of the school's freight elevator, but he is grateful to his school-home communication device for making it possible to follow through on the other subjects he needed. The equipment, he says, has made it possible for him to continue his education and secure the knowledge in the subjects he needs for his law career. One thing, he says, that the device needs is a television view plate —he had a very attractive Latin teacher and he felt completely left out!

Bobbie's interest in law gives rise to the question of using this device in higher education. There seems little reason to doubt that the method can be applied successfully to college lecture courses.

Just how far this might go is open to question. Conceivably it would not be practical in certain courses requiring vision, or laboratory courses requiring each individual to conduct experiments after setting up the required apparatus. For Bobbie, who wants to study law, there would be every possibility that he could go ahead with his plans and continue his schooling *in absentia*.

"In this system [national socialist planning] a network of bureaus armed with oppressive authority will swarm over the whole apparatus of the private sector of the system and exhausting taxes will drain to the dregs the profits of this sector to support the ever-expanding socialized sector. The operation of this sort of society will force the most fundamental alterations in our political system, because it must be obvious to the most casual student that the American political system is utterly unsuited to such a society."

—Excerpt *from "The Road Ahead" by John T. Flynn.*

Washington and the Utilities

National Security Tied to Public Power

THE Department of Interior, strongest bidder for wartime controls over electric power, natural gas, oil, and solid fuels, has now moved to focus attention of Congress and the public on existing and proposed Bureau of Reclamation hydroelectric projects and their position in any war effort.

As Congress swung into debate on the Defense Production Act of 1950 which would give the President almost unlimited controls over the nation's economy, Interior Secretary Chapman released a press statement linking Reclamation's hydro capacity—present and projected—to our national security effort. He said that power production, which hit a new peak on Reclamation projects during the fiscal year ended June 30th, already is heading for a new high mark this fiscal year "as national security efforts are stepped up."

Reporting that Reclamation would install 663,100 kilowatts of capacity during the current year, Chapman observed, "Now, as we head into a changeover to production for national defense, these great power producers on our western rivers will prove their worth again as they did in the last war."

This seems at least a suggestion to Congress that continued appropriations for construction of public power projects would not be frowned upon by the Interior Department. Chapman furnished a tabulation of operating and authorized Reclamation projects with their present and ultimate installed generating capacities. This table revealed present installed capacity as 3,312,257 kilowatts, and an ultimate electric power capacity of 7,-419,507 kilowatts.

IT is not probable that Congress will be very enthusiastic over such stepped-up spending on the domestic front, unless the agency can present convincing proof that contemplated projects, or expansion of existing ones, are in the direct interest of war mobilization.

In the meanwhile, there have been two indications that Interior has, for the present at least, the "inside track" in its contest for wartime utility controls. Secretary of Commerce Charles Sawyer, recently testifying before a Senate committee on the Defense Production Act of 1950, replying to a query by Senator Sparkman (Democrat, Alabama) on the problems of electric power allocation, said, "I assume that would be done by the Interior Department which has been closely in touch with that."

In addition to the Sawyer comment, Interior Department officials take the view that since their agency has made close studies of the problems of gas, oil, and coal, it is logical that it take over control of electric power, especially since it is the Federal agency now having the responsibility for direct Federal power distribution and marketing.

There also is some off-the-record indication that Interior would just as soon forestall the resurrection of any such agency as the old War Production Board's Office of War Utilities, which existed during World War II. In the meantime, the Federal Power Commission, the government's normal regulatory agency for interstate gas and electric operations, does not appear very much in the running.

It is possible that before the question of which Federal agency shall exercise the controls is decided, the general jurisdictional question between Interior

and the FPC over paramount hydroelectric licensing authority will spill over into the President's lap for final adjudication.

Both Chapman and FPC Chairman Wallgren have personal connections with the White House.

REA Looks toward a Generating-Transmission Program

AWARE that some slowdown will be necessary during the war period, Rural Electrification Administration officials are looking toward bigger, broader fields that are not strictly "rural electrification," at least in the sense of rural distribution of power. Their views are certain to conflict with those who feel that generation and transmission of power is a job for private enterprise. (See "REA Enters a New Phase," page 229, August 17th issue.)

REA seems to be looking toward a relatively permanent generating and transmission ("super co-op") program, as distinguished from purely rural distribution. This is borne out by recent REA studies soon to be released.

Setting out that farm power consumption has moved from an annual average of 759 kilowatt hours per farm in 1935 to 3,054 in 1948, REA Administrator Claude R. Wickard now estimates that within the next five years 3,000,000 REA consumers will need an increase of 5 billion kilowatt hours in their yearly supply.

REA officials do not believe private industry can handle this future load.

Taxes

WITH the enactment of the Defense Production Act of 1950, giving the President almost unlimited controls over industry and the nation's economy, attention has been focused on the House-passed tax bill, now before the Senate Finance Committee. The question uppermost in the minds of utilities and other corporation executives is, "Will there be an excess profits tax, now or later?"

It can be definitely said that an excess profits levy this year is "out of the picture." Senate Finance Committee Chairman Walter F. George (Democrat, Georgia) has declared against it at this time, and has hinted that he would be slow to approve such a tax, even next year.

The White House has supported George in his opposition to the excess profits levy at this time. President Truman, although pressing for higher personal and corporate income taxes effective not later than October 1st, stated at a recent press conference that he did not deem the excess levy to be needed now.

Opposing George and the White House is Senator Joseph C. O'Mahoney (Democrat, Wyoming), who insists that an excess profits levy, retroactive to January 1st of this year, is immediately necessary to combat inflation and to give the government needed revenue in the war effort.

WRPC Report

THE President's Water Resources Policy Commission, its hearings in various parts of the country completed, is working at top speed to complete its report by the December 1st deadline set by President Truman when he created the body by executive order this past spring.

At this point there is no intimation from members of the commission what the general tenor of the report will be, or what recommendations will be made. However, it is to be borne in mind that the chairman, Morris Llewellyn Cooke, and Leland Olds, commissioner in charge of planning, are staunch advocates of public power.

The commission, which was created to gather material and enlightening arguments for the valley authority idea, if it correctly evaluates opinions as gathered at various "on-the-spot" hearings, may find itself in the interesting position of having to report that sentiment in the different watersheds, or basins, strongly favors that water resources developments be undertaken by state and local bodies with a minimum of Federal "coöperation."

Exchange Calls And Gossip

No Radio, TV Curbs Expected

CHAIRMAN Wayne Coy, of the Federal Communications Commission, recently said he foresaw no need for curtailment of radio and television broadcasting in a military emergency. Should the need arise, Coy asserted his belief that nothing beyond the self-imposed controls of World War II would be required. He said he had no plans for recommending anything more stringent than those.

Chairman Coy made his statements before a closed meeting of the National Association of Broadcasters' board of directors, which later made public an abstract of his remarks.

In the last war, construction of new broadcasting stations was frozen and all overseas broadcasting was subjected to strict government supervision, but domestic radio continued on a nearly normal basis, subject only to the voluntary censorship of news relating to military matters which applied also to newspapers.

On orders from military district commanders, broadcasting stations were sometimes required to go off the air during blackout periods for air-raid practice.

Coy's assurances to the industry apparently were intended to answer unofficial reports that broadcasting might have to be cut down in order to avoid the use of radio station beams for enemy-guided missiles or other air-directed attack.

The NAB board members, led by Justin Miller, association president, called at the White House after their closed session to advise Dr. John R. Steelman, presidential adviser, of a resolution adopted by the directors pledging the association to adopt "all measures necessary to insure the national security."

IT was announced after the board meeting that the Broadcast Advertising Bureau, which has long functioned within NAB as an advertising sales organization, will next year split off into an independent organization devoted to promoting advertising on aural radio. BAB spokesmen, noting the growing competition of television for broadcasting advertising, said the bureau felt that standard and FM radio require special sales effort at this time.

The NAB board announced that if television interests should feel it necessary to have a special advertising service, the association "will consider special promotion" in this field.

FCC "Reform" Bill

HEARINGS on the McFarland Bill (S 1973), to amend the Federal Communications Act, were opened early this month by the House Interstate and Foreign Commerce Committee. The bill, which may be slipped through Congress with little opposition, requires reorganization and "reform" of the Federal Communications Commission. It passed the Senate in August, 1949, and has since been awaiting House action. The House has not previously seriously considered the bill on its merits.

Last month a modified form of the McFarland Bill was reported to the Senate as a rider attached to a House-approved bill (HR 4251) to permit the FCC to acquire land for radio monitoring installations. The Senate approved this combination measure with its McFarland Bill rider by a voice vote. This action, in effect, placed the decision as to the final form of this legislation in the hands of

Senate-House conferees, thus avoiding general floor debate in the House of Representatives.

The FCC has practically completed its own internal reorganization program along lines similar to those proposed in the McFarland Bill. This move made by the commission was intended to drain off some of the steam behind the bill. The purpose of FCC "voluntary" reorganization is to rearrange the commission's work along "functional" lines, so as to separate radio-television regulation from common carrier telephone-telegraph regulation. This is in contrast with "occupational" divisions classifying the FCC work along such professional lines as accounting, law, engineering, etc. This shift was expected to remove the bottleneck created by FCC's legal staff, and thereby speed action on matters pending before the commission.

FCC's self-conducted internal reforms have not produced this desired result in the view of many on the commission staff. Some believe that the FCC has snarled up its own procedures. Whether the passage of the McFarland Bill in modified form will untangle this situation is open to question. The Senate Interstate Commerce Committee believes that definite legislation is needed and that complete discretion should not be left to FCC legal advisers, who tend to get into protracted discussions and disputes.

The FCC is of the opinion that internal structure is a matter for commission rather than congressional action.

FCC Speeds Disaster Network

THE FCC was recently reported to be speeding its plans to set up a national disaster network, because of the troubled world situation. Proposed technical rules were announced, and, "because of the urgency of the matter," those interested were requested to make their comments and recommendations before September 15th.

The proposal for a "disaster communication service" was discussed by representatives of the armed services, the broadcasting industry, and the FCC early in June. Plans for the emergency network did not then involve its establishment at any particular time. However, the commission says subsequent pressure of recent world events makes the early establishment of such a service "both highly desirable and necessary."

Through the program, the commission would license the many amateur stations, and the stations of the commercial services, to coöperate with the armed services stations when an emergency arose. The "emergency linkage" would be brought into action when regular broadcasting facilities were "not available."

Broadcasting frequencies from 1,750 through 1,800 kilocycles have been set apart for exclusive use of the proposed service. It would be operated on a national basis, or in a regional setup, in case of emergencies such as armed attacks, earthquakes, hurricanes, or floods.

In the announcement the FCC said communications concerning relief and rescue, and also government orders, would have top priority.

No particular opposition to the proposal was expected, although various suggestions were antipicated.

City Drops Rate Fight

KANSAS CITY, Missouri, recently abandoned its legal fight against rate increases totaling $6,900,000 granted in Missouri operations of the Southwestern Bell Telephone Company.

By unanimous vote of the city council, the city's special utilities counselor, Jerome M. Joffee, was instructed to withdraw a pending suit in the Cole County Circuit Court protesting against a rate increase granted March 10, 1949. He also was instructed not to file a planned appeal from a second increase granted more recently.

Spokesmen said the council based its decision on an opinion of its public utility committee, which felt prolonged legal controversy might bring a delay in planned service improvements by the telephone company.

Financial News and Comment

By OWEN ELY

Utilities the Most Highly Taxed Industries in Wartime in Relation to Revenues

As shown in the chart, page 309, the wartime burden of Federal taxation is apt to be much heavier for utility companies in relation to gross revenues than for other industries. In 1945 the telephone and telegraph companies had to pay out nearly 11 per cent of their revenue dollar in Federal taxes on income, the electric and gas utilities 8.6 per cent, and the natural gas pipelines 8 per cent. The only industry with a similarly high load was the printing and publishing business. The mining, oil, coal, construction, and merchandising industries, along with food and tobacco, got off quite lightly.

This furnishes another reason for the revamping of Federal tax policies toward the regulated industries, which operate under fixed prices in wartime and cannot "profiteer"—while many other industries can raise prices and increase profits in line with the general inflationary trend. Utilities not only make a very narrow margin of profit on their additional sales attributable to increased defense activity, but must bear the burden of higher costs for fuel and metals, as well as wage demands to offset the higher cost of living. Theoretically, they can obtain offsetting rate increases, but these are apt to prove slow and inadequate.

DEPARTMENT INDEX

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The Coming Tax Burden

The latest word from Washington indicates that the proposed 45 per cent corporate income tax rate will only be applied to earnings of the last half of the year, which would mean a reduction of only about 5 to 6 per cent in this year's earnings available for common stock. This can easily be absorbed, but the real test comes next year, and that is what the stock market is discounting.

It would seem a fairly simple matter to estimate the effects of a 45 per cent rate next year, but such individual figures as have appeared are not always consistent. Thus, Southwestern Public Serv-

ice estimates that a 45 per cent rate if applicable to the calendar year 1950 would reduce its earnings only about 9 cents (on the split-up stock) or less than 7 per cent. On the other hand, Northern Indiana Public Service figures a loss of 23 cents or over 10 per cent (based on estimated calendar year earnings of $2.20). Pacific Gas and Electric, whose earnings are estimated at $2.70 on *average* shares outstanding for the twelve months ended June 30th by Blyth & Co., estimates that it would lose 40 cents a share (on average shares) with a 45 per cent rate, or a decrease in earnings of 15 per cent. Thus the estimates of the effects of this tax range from 7 to 15 per cent. Figures in the accompanying table are derived from estimates prepared by Shields & Company. The average reduction in common share earnings for the companies listed would be 12 to 13 per cent for the 45 per cent tax, and 21 per cent for the 50 per cent rate.

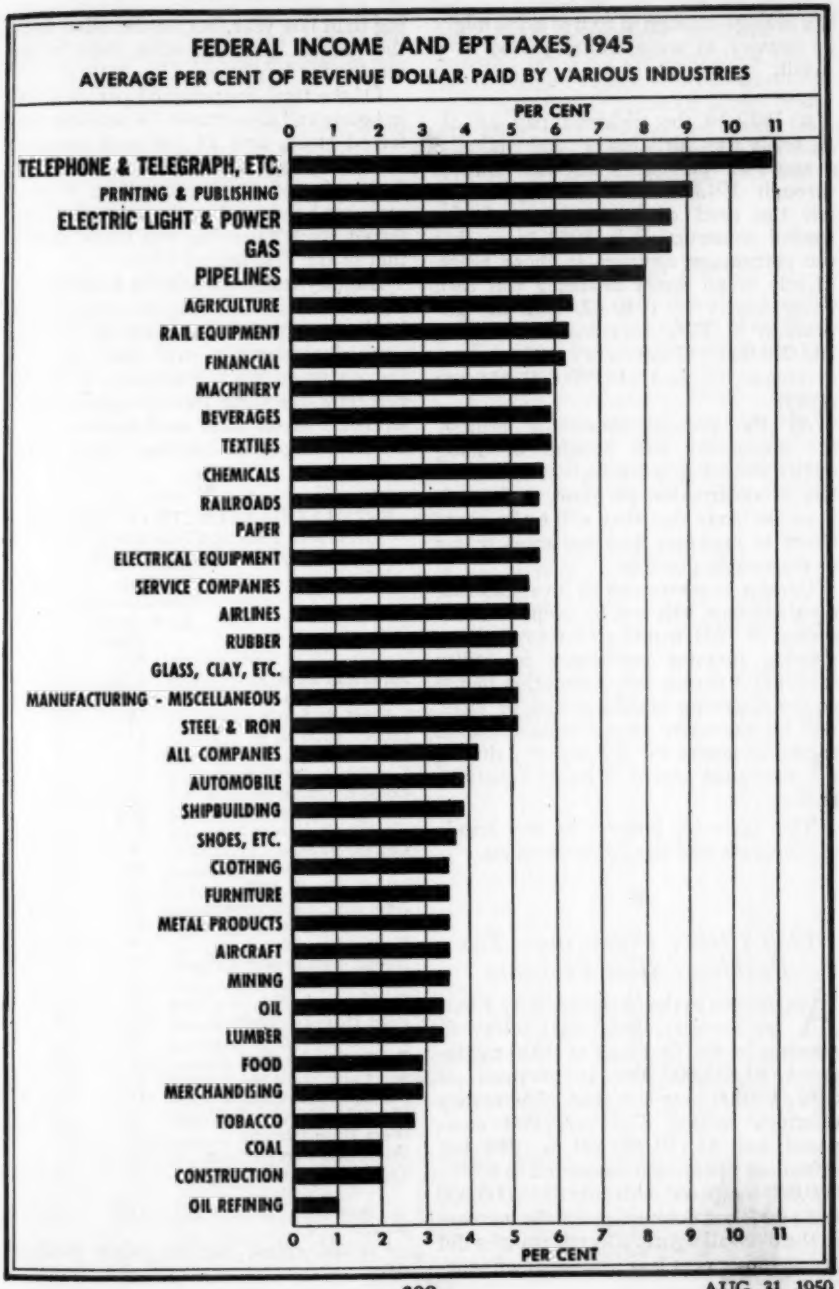
BECAUSE of the complexity of the old excess profits tax law, few companies have yet completed (or in any event released) their estimates of possible effects on 1951 earnings of a new excess profits tax. It is hoped that the industry may avoid EPT, as a regulated industry—but if not, that the tax will be streamlined so as to eliminate the worst inequalities of the old law and lighten the utility load somewhat. For one large company which has prepared such an estimate, the reduction from 1950 common stock earnings, due to a combined 45 per cent corporate tax and old-style EPT, would approximate 28 per cent. Informal estimates prepared for several other utilities indicate reductions of 13 to 27 per cent.

Obviously, such an over-all jump in taxes would endanger a great many utility dividends. A 12 per cent reduction in earnings resulting from a 45 per cent tax rate (alone) could perhaps be absorbed by most companies by moving the dividend pay-out percentage from 70 to 80 per cent, it is estimated. Assuming that the industry was willing to do this, and with some help from anticipated gains in earnings over the next twelve months, probably only a few companies would have to make dividend readjustments. Even some companies with high pay-outs have been giving informal assurances to Wall Street utility analysts that their present dividend rates should be secure with a 45 per cent or even a 50 per cent corporate rate. But it is obvious that with EPT, an over-all cut of 20 to 30 per cent in utility net available for common dividends would in many cases wipe out the margin of safety for dividends.

The record of average dividend pay-out for the electric power and light industry (Federal Power Commission figures) has been as follows during 1939-49:

Years	*Balance Earned For Common Stock*	*Common Dividends*	*Pay-out Percentage*
	(Millions of Dollars)		
1949	$654	$449	69%
1948	559	395	71
1947	547	398	73
1946	533	353	66
1945	422	295	70
1944	390	281	72
1943	378	286	76
1942	362	279	77
1941	400	310	77
1940	425	324	76
1939	411	320	78

THE EPT was in force during 1941-45 with the worst effects (so far as electric utilities were concerned) in 1943-44. In 1943 EPT amounted to $188,000,000 and in 1944 $186,000,000. However, the burden would have been much heavier if utilities had not been able to make substantial charge-offs in "lieu" of Federal income taxes, partly through refunding operations, and partly by other methods. Thus in the year 1945, 14 out of 36 large electric utilities were able to avoid payment of EPT altogether. With the refunding program largely out of the way now, it is doubtful to what extent special charges could be set up, unless the government again allows accelerated depreciation of new facilities. Such depreciation was allowed during World War II, but construction was not very large at that time. Now such an allowance would be a substantial aid in


FEDERAL INCOME AND EPT TAXES, 1945
AVERAGE PER CENT OF REVENUE DOLLAR PAID BY VARIOUS INDUSTRIES
PER CENT
0 1 2 3 4 5 6 7 8 9 10 11
TELEPHONE & TELEGRAPH, ETC.
PRINTING & PUBLISHING
ELECTRIC LIGHT & POWER
GAS
PIPELINES
AGRICULTURE
RAIL EQUIPMENT
FINANCIAL
MACHINERY
BEVERAGES
TEXTILES
CHEMICALS
RAILROADS
PAPER
ELECTRICAL EQUIPMENT
SERVICE COMPANIES
AIRLINES
RUBBER
GLASS, CLAY, ETC.
MANUFACTURING - MISCELLANEOUS
STEEL & IRON
ALL COMPANIES
AUTOMOBILE
SHIPBUILDING
SHOES, ETC.
CLOTHING
FURNITURE
METAL PRODUCTS
AIRCRAFT
MINING
OIL
LUMBER
FOOD
MERCHANDISING
TOBACCO
COAL
CONSTRUCTION
OIL REFINING
0 1 2 3 4 5 6 7 8 9 10 11
PER CENT

tax saving—though of course taxes might be heavier in some future period as a result.

In 1939-40 the dividend pay-out already was fairly heavy; and while the average 77 per cent rate was retained through 1943, the utilities apparently felt the need of conserving cash for needed construction in 1944-46 so that the percentage declined in those years. (Little or no equity financing was then being done.) In 1940-42, with the imposition of EPT, net income dropped $63,000,000 (15 per cent) and common dividends dropped $45,000,000 (14 per cent).

At the present time, the utilities are apparently still hopeful of doing equity financing in connection with their heavy construction program, and hence it seems likely that they will make every effort to maintain dividend rates so far as reasonably possible.

Greater reassurances to investors that dividend cuts will not be deep or widespread in 1951 would go far toward improving investor confidence in utility stocks and permit the resumption of the equity financing which, sooner or later, will be necessary to maintain a sound capital structure for the industry during the continued period of heavy construction.

The issue is largely in the hands of Congress and the administration.

1950 Utility Financing—Tax Problems Slow Program

According to the compilation by Ebasco Services, Inc., total utility financing in the first half of 1950 aggregated $1,833,000,000—an increase of $467,000,000 over last year. New-money offerings totaled $1,119,000,000 compared with $1,150,000,000 in 1949, but refunding operations amounted to $596,000,000 compared with only $116,000,000 last year, thus accounting for the increase in the over-all figure. Electric utilities did about 10 per cent less new-money financing than last year, but on the other hand the natural gas companies were in the market for larger sums.

Of the total financing 65 per cent was in bonds and debentures, 14 per cent preferred stock, and 21 per cent common stock. Because of the improved market for preferred stocks, resulting from a stronger bond market, the amount of preferred stock financing was about double that of the first half of 1949.

Slightly less than half the total financing was effected through competitive bidding—negotiated and private sales increased moderately over last year. Of the common stock financing, about 61 per cent was done through subscription offerings to common stockholders.

According to the Irving Trust Com-

ESTIMATED EFFECTS OF HIGHER INCOME TAX RATES ON LARGE ELECTRIC UTILITIES

	Percentage by Which Share Earnings Would Be Reduced by Tax Rate of	
	45%	*50%*
American G. & E.	13%	22%
Boston Edison	*12	*21
Central & South West	13	22
Cincinnati G. & E.	12	21
Cleveland Electric	10	17
Commonwealth Edison	12	21
Consol. Edison of N. Y.	14	25
Consol. Gas of Balto.	12	*21
Consumers Power	13	21
Detroit Edison	9	15
General Public Utilities	10	16
Middle South Util.	16	28
New Eng. Elec. System	12	20
Niagara Mohawk Power	13	23
North American	9	*16
North. Sts. Power (Minn.)	12	21
Ohio Edison	12	21
Pacific G. & E.	11	*19
Penn Power & Light	12	20
Philadelphia Electric	14	22
Public Service E. & G.	17	*30
So. Calif. Edison	12	22
Southern Company	15	25
Virginia Electric & Power	9	16
West Penn Electric	15	24
Wisconsin Elec. Power	16	27
Texas Utilities	12	22
Average	12%	21%

*Would reduce earnings below dividend rate.

pany's monthly compilation, offerings of electric and gas companies (only) for the month of July were as follows, in millions:

		New Money	*Refunding*
Bonds	sold to public	$ 44	
	sold privately	151	$ 7
Preferred	sold to public	3	
	sold privately	2	
		$200	$ 7

In the accompanying table (pages 311, 312) appears our own tabulation of security offerings in the past four months. (The previous table appeared in the April 27th issue, pages 565, 566.)

Financing in August has been at a very low ebb, due both to the irregular security markets and the vacation period. A number of companies—Consumers Power, Southern Company, Rochester Telephone, Northwestern Public Service, etc.—have postponed previously announced plans for common stock financing through "rights." Other companies have moved their plans for equity financing ahead indefinitely, and bank loans will doubtless have to take up the slack as they did in 1947 and the first half of 1948.

Renegotiation Resisted

THE oil and gas industry recently opened a fight to have their products exempt from provisions of the new renegotiation bill.

The House Ways and Means Committee this month opened hearings on the new renegotiation bill to urge that the section which subjects raw materials to renegotiation be stricken from the bill.

PRINCIPAL PUBLIC OFFERINGS OF UTILITY SECURITIES
April 11, 1950, to August 14, 1950

Date	*Amount Mill.*	*Description*	*Price To Company*	*Price To Public*	*Per Cent Gross Spread*	*Offering Yield**	*Moody Rating*
		Mortgage Bonds					
4/12	$18	Boston Edison 1st 2¾s 1980	$102.08	$102.63	.5%	2.62%	Aaa
4/14	10	Illinois Power 1st 2¾s 1980	100.18	100.61	.4	2.72	A
4/20	9	Pacific Power & Lt. 1st 3s 1980	101.80	102.40	.6	2.88	Baa
4/20	22	So. Caro. E.&G. 1st&Ref. 3s 1980	102.42	103.00	.6	2.85	Baa
5/5	2	Cent. Vermont P.S. 1st 2¾s 1980	101.93	102.54	.6	2.75	A
5/3	26	Pub. Serv. E.&G. 1st&Ref. 2¾s 1980	101.27	101.75	.5	2.67	Aa
5/10	30	Potomac E. Pr. 1st 2¾s 1985	100.80	101.13	.3	2.70	Aa
5/19	8	Brooklyn Union Gas 1st 3s 1980	102.40	103.00	.6	2.85	A
5/18	58	Ohio Edison 1st 2¾s 1980	101.74	102.25	.5	2.76	A
5/17	18	Oklahoma G.&E. 1st 2¾s 1980	101.59	102.13	.5	2.77	A
5/24	3	Interstate Pr. 1st 3s 1980	101.91	102.50	.6	2.88	Baa
6/2	8	Wisconsin P.&L. 1st 2¾s 1980	101.88	102.34	.5	2.76	A
6/9	2	Calif. El. Pr. 2¾s 1980	100.92	101.75	.8	2.79	A
6/7	13	Gulf States Utilities 1st 2¾s 1980	100.74	101.02	.3	2.70	Aa
6/9	25	So. Cal. Gas 1st 2¾s 1980	102.05	102.54	.5	2.75	Aa
6/7	15	Wisc. El. Pr. 1st 2¾s 1980	100.52	101.02	.5	2.70	Aa
6/7	4	Wisc. Nat. Gas 1st 2¾s 1975	100.87	101.42	.6	2.79	A
6/16	25	Dallas Pr.&Lt. 1st 2¾s 1980	100.83	101.33	.5	2.69	Aa
6/14	80	Pacific G.&E. 1st&Ref. 2¾s 1976	101.53	102.00	.5	2.76	Aa
6/22	6	Arkansas P.&L. 1st 2¾s 1980	101.33	101.75	.4	2.79	A
6/21	20	Indiana & Mich. El. 1st 2¾s 1980	100.77	101.02	.3	2.70	Aa
6/22	15	Kans. City P.&L. 1st 2¾s 1980	101.34	101.85	.5	2.66	Aaa
6/22	8	Miss. P.&L. 1st 2¾s 1980	101.52	101.92	.4	2.78	A
7/14	4	Ky. Utils. 1st 2¾s 1980	100.53	101.11	.6	2.82	A
		Debentures and Notes					
5/3	27	American G.&E. 2¼% Notes 1952-65	$100.52	(c)	—	(c)	A
5/26	4	Inter. Util. Conv. Deb. 3¾s 1965	—	$100.00	—	—	Ba
6/7	60	Northwest. Bell Tel. Deb. 2¾s 1984	100.72	101.11	.4%	2.70%	Aaa
6/14	40	Northern Nat. G. Deb. 2¾s 1953-70	99.56	(d)	—	(d)	A
6/21	110	Columbia Gas Sys. Deb. 3s 1975	101.81	102.49	.7	2.86	A
6/29	11	(f)Equitable Gas Deb. 3¾s 1970	104.04	104.53	.5	3.07	Baa

(Continued)

Date	Amount Mill.	Description	Price To Company	Price To Public	Per Cent Gross Spread	Offering Yield*	Moody Rating
7/12	15	Panhandle East. P.L. Deb. 2¾s 1953-62	101.92	(g)	—	—	A
7/12	20	Panhandle East. P.L. Deb. 2¾s 1975 ..	98.49	99.11	.6	—	A
7/20	6	(h) Tex.-Ill. N. G. Pipeline 5% 2-yr. notes	96.50	100.00	3.6	—	—
8/2	90	Columbia Gas Sys. Deb. 3s 1975	101.88	102.31	.4	2.87	A
		Preferred Stocks					
4/12	2	Central Arizona L.&P. $2.36 Pfd.	$ 49.00	$ 50.50	3.1%	4.68%	
4/25	7	(a) Texas Power & Light 4% Pfd.	98.75	100.00	1.3	4.00	
4/27	3	(b) Rochester G.&E. 4.10% Pfd.	—	100.00	—	4.10	
4/26	2	Southwestern Assoc. Tel. $5.50 Pfd. ..	95.70	101.00	5.5	5.46	
4/27	11	Texas El. Service $4 Pfd.	98.75	100.00	1.3	4.00	
5/5	1	Central Vt. P.S. 4.75% Pfd.	100.30	103.25	3.0	4.61	
5/5	2	Idaho Power 4% Pfd.	97.75	100.00	2.3	4.00	
5/16	1	Maine P.S. 5¼% Pfd. (Par $20)	18.75	20.00	6.7	5.50	
5/17	26	South. Cal. Ed. 4.08% Pfd. (Par $25)	25.04	25.50	1.8	4.00	
5/24	5	Interstate Pr. 4.70% Pfd. (Par $50) .	50.00	51.50	3.0	4.57	
5/24	5	Iowa Public Service 4.20% Pfd.	100.95	102.44	2.0	4.10	
6/8	5	Rockland Lt. & Pr. 4.65% Pfd.	100.52	103.25	2.7	4.50	
6/15	3	Assoc.Tel.Co.Ltd. 5% Pfd. (Par $20)	—	21.50	—	4.67	
6/21	8	Dayton Power & Light 3.90% Pfd. ..	98.35	100.00	1.7	3.90	
7/12	3	Kentucky Utils. 4¼% Pfd.	—	102.50	—	4.65	
5/22(j)	9	Brooklyn Union Gas 5% ($40 Par) ..	(1)	48.00	—	4.18	
4/28(j)	6	El Paso Nat. Gas $4.25 Conv.	(1)	102.00	—	4.17	
6/13(j)	3	Wash. Gas Light $4.25 Pfd.	(1)	103.00	—	4.14	
		Common Stocks—Subscription Rights					
7/12(j)	5	(i) General Telephone Co. ($2)	—	$ 25.00	—	8.00%	
7/3 (j)	12	Cinn. & Suburban Bell Tel. Co. ($4.50)	—	50.00	—	9.00	
7/24(j)	18	(k) Texas-Ill. Nat. Gas Pipe Line	—	10.00	—	—	
4/24(j)	5	Delaware Power & Light ($1.20)	—	21.00	—	5.72	
4/24(j)	9	Mississippi River Fuel ($2)	—	34.00	—	5.90	
4/28(j)	18	Mountain States Tel. ($6)	—	100.00	—	6.00	
5/12(j)	7	N. Y. State Elec. & Gas ($1.70)	—	25.50	—	6.67	
5/22(j)	10	Northern Natural Gas Co. ($1.80) ...	—	31.50	—	5.73	
5/22(j)	4	Oklahoma G. & E. ($2.50)	—	41.00	—	6.10	
4/21(j)	81	Pacific Tel. & Tel. ($7)	—	100.00	—	7.00	
5/16(j)	2	Peninsular Telephone ($2.50)	—	40.00	—	6.26	
4/21(j)	10	Southern New England Tel. ($1.80) .	—	25.00	—	7.22	
5/31(j)	8	Dayton P. & L. ($2)	—	30.00	—	6.67	
5/26(j)	2	New England G. & E. ($.93)	—	13.00	—	7.15	
6/30(j)	12	Peoples Gas ($6)	—	100.00	—	6.00	
5/25(j)	10	Potomac El. Pr. ($.90)	—	14.50	—	6.21	
6/29(j)	10	Wisconsin Electric Power ($1.20) ...	—	17.50	—	6.85	
6/12(j)	5	Wisconsin Power & Light ($1.12) ..	—	16.75	—	6.70	
6/19(j)	8	Northern Indiana P. S. ($1.40)	—	20.13	—	6.95	
		Common Stocks—Other New Money Sales					
4/12	2	Central Arizona L. & P. ($.80)	$ 12.50	$ 13.25	6.0%	6.03%	
5/23	2	Califorina Electric Power ($.60)	—	8.63	—	6.95	
6/14	8	(e) Toledo Edison ($.70)	10.64	11.00	3.4	6.38	
6/16	2	Commonwealth Natural Gas	8.88	10.00(n)	12.6	—	
		Common Stocks—Noncompany Sales					
4/19	23	Kansas City Power & Light ($1.60) ..	(m)	$ 12.00	—	—	

*Yield to maturity on bonds. (a) The company also issued about $13,000,000 $4.56 preferred in exchange for the old $7 and 6 per cent stocks. (b) Company also issued 4.10 per cent preferred stock in exchange for 4½ per cent preferred. (c) Offered on 1.55 per cent to 2.60 per cent yield basis. (d) Offered on 1.75 per cent to 2.78 per cent yield basis. (e) Four hundred thousand new money shares and 302,000 shares representing unsubscribed portion of 3,702,000 shares previously offered by Cities Service Company to its stockholders. (f) Debentures were sold by Philadelphia Company, former parent. (g) Offered on 1.85 per cent to 2.65 per cent basis. (h) All financing, including private security sales, totaled $119,500,000. (i) About one-fifth of the issue was offered by the underwriters at $25.25. (j) Date rights expired. (k) Stock closely held. (l) Rights offered to common stockholders. (m) Offered to stockholders of United Light & Railways. (n) About one-quarter sold through rights at 8¼.

CURRENT UTILITY STATISTICS AND RATIOS

	Unit Used	Amount Latest Month	Amount Latest 12 Mos.	Per Cent Increase Latest Month	Per Cent Increase Latest 12 Mos.
Operating Statistics (June)					
Output KWH—Total	Bill. KWH	26.7	304.4	13%	5%
Hydro Generated	"	8.0	—	11	—
Fuel Generated	"	18.7	—	14	—
Capacity	Mill. KW	65.6	—	12	—
Peak Load (May)	"	52.4	—	4	—
Fuel Use: Coal	Mill. tons	7.1	—	7	—
Gas	Mill. MCF	61.0	—	17	—
Oil	Mill. bbls.	5.3	—	6	—
Coal Stocks	Mill. tons	23.9	—	D16	—
Customers, Sales, Revenues, and Plant (May)					
KWH Sales—Residential	Bill. KWH	3.9	47	15%	13%
Commercial	"	3.1	37	9	8
Industrial	"	9.6	105	14	D2
Total, incl. misc. & sales to other utilities	"	22.8	264	11	3
Customers—Residential	Mill.	28.2	—	1	—
Commercial	"	4.2	—	3	—
Industrial	"	.5	—	4	—
Total, incl. misc. & sales to other utilities	"	34.8	—	4	—
Income Account—Summary (May)					
Revenues—Residential	Mill. $	117	1,407	12%	11%
Commercial	"	87	1,054	8	7
Industrial	"	109	1,225	11	—
Total, inc. misc. sales	"	347	4,078	10	6
Sales to other utilities	"	34	379	6	D3
Misc. Income	"	19	199	52	14
Expenditures					
Fuel	"	57	711	10%	D7%
Labor	"	76	878	6	4
Misc. Expenses	"	63	768	5	2
Depreciation	"	36	404	13	9
Taxes	"	72	823	13	11
Interest	"	21	250	7	10
Amortization, etc.	"	2	21	D13	D12
Net Income	"	70	803	25	15
Preferred Div. (est.)	"	9	105	—	—
Bal. for Common Stock (est.)	"	61	698	30	18
Common Dividends (est.)	"	38	465	—	—
Balance to Surplus (est.)	"	23	233	156	85
Electric Utility Plant (May)	"	17,905	—	10%	—
Reserve for Deprec. and Amort.	"	3,738	—	7	—
Net Electric Utility Plant	"	14,167	—	11	—
Utility Financing (June)*					
Bonds	"	535	1,521**	D36%	27%
Stocks	"	66	491**	D13	49
Total	"	601	2,012**	D35	11
Life Insurance Investments (January 1st-August 5th)					
Utility Bonds	"	—	825	—	11%
Utility Stocks	"	—	128	—	142
Total	"	—	953	—	20
Per Cent of All Investments	"	—	21%	—	D3

D—Decrease. *Data for all utilities (electric, gas, telephone, etc.), including refunding issues. **Six months ended June 30th.

RECENT FINANCIAL DATA ON GAS COMPANY STOCKS

		8/9/50 Price About	Indicated Dividend Rate	Approx. Yield	Share Earnings 12 Mos. Ended	Cur. Period	Prev. Period	% Increase	Price-Earnings Ratio
Natural Gas—Retail									
C	Arkansas Natural Gas	10	$ .60	6.0%	Dec.	$1.26	$1.44	D6	7.9
O	Atlanta Gas Light	22	1.20	5.5	June	2.23	1.82	23	9.9
O	Central Electric & Gas	8½	.60	7.1	May	1.11	1.29	D14	7.7
S	Columbia Gas System	12	.75	6.3	Mar.	.95	.91*	4	12.6
C	Consol. Gas Util.	11	.75	6.8	Apr.	1.48	1.77	D16	7.4
S	Consol. Nat. Gas	42	2.00	4.8	June	4.71	3.65	29	8.9
S	Equitable Gas	20	1.30	6.5	June	2.22	—	—	9.0
O	Houston Nat. Gas	16	.80	5.0	July	1.45	1.42	2	11.0
O	Indiana Gas & Water	20	1.20	6.0	June	2.13	1.59	34	9.4
O	Kansas-Nebraska Nat. Gas	16	1.00	6.3	Dec.	1.63	1.55	5	9.8
S	Laclede Gas Light	6½	.20	3.1	Mar.	.94	.91	3	6.9
C	Lone Star Gas	24	1.20	5.0	June	2.05	1.97	4	11.7
O	Minneapolis Gas	18	1.00	5.6	June	1.70	.69	146	10.6
O	Mission Oil	37	2.20	5.9	Dec.	3.60	2.05	76	10.3
O	Mobile Gas Service	27	1.60	5.9	June	3.03	2.36	28	8.9
S	Montana-Dakota Util.	11	.80	7.3	June	1.45	1.35	7	7.6
C	National Fuel Gas	11	.60	5.5	June	1.22	.75	63	9.0
O	National Gas & Oil	6	.40	6.7	Dec.	.58	1.40	D59	10.3
C	Okla. Natural Gas	29	2.00	6.9	June	3.06	3.25	D6	9.5
S	Pacific Lighting	49	3.00	6.1	June	3.92	3.59	9	12.5
C	Pacific Pub. Service	15	1.00	6.7	Dec.	2.08	3.21	D50	7.2
S	Peoples Gas L. & C.	109	6.00	5.5	June	9.88	7.96	24	11.0
C	Rio Grande Valley	2	.12	6.0	Dec.	.19	.20	—	10.5
O	Rockland Gas	32	1.70	5.3	Dec.	4.41	2.73	62	7.3
O	Southern Union Gas	19	.80	4.2	June	1.58	—	—	12.0
O	Southwest Nat. Gas	6	(a)	—	June	.43	.34	26	14.0
S	United Gas	17	1.00	5.9	Mar.	1.41	1.58	D11	12.1
S	Washington Gas Light	25	1.50	6.0	June	3.40	1.19	186	7.4
	Averages			5.8%					9.8
Natural Gas—Wholesale and Pipeline									
S	American Natural Gas	26	$1.20	4.6%	June	$2.47	—	—	10.5
O	Commonwealth Gas	9	.15	1.7	Dec.	.62	.68	D9	13.5
S	El Paso Nat. Gas	22	1.20	5.5	May	1.74	2.35	D26	12.6
O	Interstate Nat. Gas	31	2.50	8.1	Dec.	2.50	2.03	23	12.4
O	Mississippi Riv. Fuel	31	2.00	6.5	June	2.84	2.05	39	10.9
O	Missouri-Kansas P.L.	36	1.60	4.4	Dec.	4.24	1.32	221	8.5
O	Mountain Fuel Supply	19	.60	3.2	Dec.	.91	.91	—	20.9
S	Northern Nat. Gas	32	1.80	5.6	Mar.	2.76	2.63	5	11.6
S	Panhandle East. P.L.	37	2.00	5.4	June	2.71	2.33	16	13.7
O	Republic Natural Gas	42	1.00	2.4	June	3.03	2.72	11	13.9
S	Southern Nat. Gas	35	2.00	5.7	June	3.78	3.09	22	9.3
O	Tenn. Gas Trans.	25	1.40	5.8	Mar.	1.72	1.43	29	14.5
O	Texas Gas Trans.	14	—	—	Mar.	.74	.72	3	18.9
O	Texas East. Trans.	15	6½% Stk.	—	June	1.84	1.33	38	8.2
	Averages			5.2%					12.8
Manufactured Gas—Retail									
C	Bridgeport Gas	23	$1.40	6.1%	Dec.	$1.88	$1.60	18	12.2
O	Brockton Gas Lt.	17	1.00	5.9	Dec.	1.48	.43	244	11.5
S	Brooklyn Union Gas	36	2.00	5.6	Mar.	4.39	—	—	8.2
O	Hartford Gas	34	2.00	5.9	Dec.	2.67	1.85	44	12.7
O	Haverhill Gas Lt.	27	1.80	6.7	June	2.10	1.91	10	12.9
O	Jacksonville Gas	30	1.40	4.7	Dec.	4.77	6.12	D22	6.3
C	Kings County Ltg.	7	.40	5.7	Dec.	.64	—	—	10.9
O	New Haven Gas Light	27	1.60	5.9	Dec.	1.70	1.76	D4	15.9
O	Providence Gas	9	.60	6.7	Dec.	.56	.73	D30	16.1
O	Seattle Gas	11	.60	5.5	Dec.	1.49	.70	113	7.4
S	United Gas Improvement	24	1.40	5.8	June	2.06	1.84	12	11.7
	Averages			5.9%					11.4

RECENT FINANCIAL DATA ON TELEPHONE, TRANSIT, AND WATER COMPANIES

		8/9/50 Price About	Indicated Dividend Rate	Approx. Yield	Share Earnings 12 Mos. Ended	Cur. Period	Prev. Period	% Increase	Price-Earnings Ratio
Telephone Companies									
Bell System									
S	Amer. Tel. & Tel.	151	$9.00	6.0%	June	$9.90*	$9.21*	7%	15.3
O	Cinn. & Sub. Bell Tel.	68	4.50	6.6	Dec.	4.80	3.76	28	14.2
C	Mountain Sts. T.&T.	102	6.00	5.9	June	6.13	5.30	8	16.6
C	New England Tel.	94	4.75	5.1	June	10.67	4.59	132	8.8
S	Pacific Tel. & Tel.	103	7.00	6.8	May	7.92*	6.21*	28	13.0
O	So. New Eng. Tel.	33	1.80	5.5	Dec.	2.05	1.91	7	16.1
	Averages			6.0%					14.0
Independents									
S	General Telephone	26	$2.00	7.7%	June	$1.76	$2.17	D19%	14.8
C	Peninsular Tel.	41	2.50	6.1	Dec.	4.69	4.71	—	8.7
O	Rochester Tel.	11	.80	7.3	Apr.	1.30	—	—	8.5
Transit Companies									
O	Chicago S.S. & S.B.	10	$1.00	10.0%	Dec.	$ .91	$1.40	D35%	11.0
O	Cinn. St. Ry.	5	.30	6.0	Dec.	.84	.77	9	7.0
O	Dallas Ry. & Term.	10	1.40	14.0	Dec.	1.39	2.27	D39	7.2
O	Duluth Sup. Trans.	5	1.00	20.0	Dec.	.79	.44	80	6.3
S	Greyhound Corp.	10	1.00	10.0	Mar.	1.20	1.68	D29	8.3
O	Los Angeles Transit	4½	.50	11.1	Dec.	.84	.93	D10	5.4
S	Nat'l. City Lines	9	1.00	11.1	Dec.	1.75	1.97	D11	5.1
O	St. Louis Pub. Ser. A	5½	.50	9.1	Dec.	.48	.70	D31	11.5
O	Syracuse Transit	16	2.00	12.5	Dec.	.62	1.40	D13	—
S	Twin City Rapid Tr.	12	—	—	—	—	—	—	—
O	United Transit	3	—	—	Dec.	.55	.13	246	5.5
	Averages			11.5%					7.5
Water Companies									
Holding Companies									
S	Amer. Water Works	9	$ .60	6.7%	Mar.	$ .82	$ .88	D7%	11.0
O	N. Y. Water Service	115	2.00	1.7	Mar.	8.22	5.95	38	14.0
Operating Companies									
O	Bridgeport Hydraulic	32	1.60	5.0%	Dec.	$1.57	$1.78	D12%	20.4
O	Calif. Water Serv.	28	2.00	7.1	June	2.50	2.39	5	11.2
O	Elizabethtown Water	100	6.00	6.0	Dec.	8.37	6.89	21	11.9
S	Hackensack Water	32	1.70+ 25% Stk.	5.3	Dec.	3.35	2.79	20	9.6
O	Indianapolis Water	16	.80	5.0	Dec.	1.33	1.42	D6	12.0
O	Jamaica Water Supply	21	1.50	7.1	June	2.15	.75	187	9.8
O	Middlesex Water	52	3.00	5.8	Dec.	4.87	4.94	D2	10.7
O	New Haven Water	57	3.00	5.3	Dec.	3.45	3.61	D4	16.5
O	Ohio Water Serv.	18	1.50	8.3	June	1.67	2.15	D22	10.8
O	Phila. & Sub. Water	25	.80	3.2	Dec.	3.49	3.01	16	7.2
O	Plainfield Union Wt.	68	4.00	5.9	Dec.	5.09	5.02	1	13.4
O	San Jose Water	30	2.00	6.7	June	2.99	2.83	6	10.0
O	Scranton-Spring Brook	13	.70	5.4	Mar.	.89	.87	1	14.6
O	Southern Cal. Water	45	3.25	7.2	Mar.	3.95	3.63	10	11.4
O	Stamford Water	55	2.00	3.6	Dec.	2.35	2.21	6	23.4
O	West Va. Water Serv.	15	1.20	8.0	June	1.33*	.47*	183	11.3
	Averages			5.9%					12.8

D—Deficit. E—Estimated. C—Curb exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. *Based on average number of shares outstanding. #In order to facilitate comparisons, earnings are calculated on present number of shares outstanding, except otherwise indicated. (a) Stock dividend of 50 per cent payable July 1st, and cash of 10 cents payable same date (on new stock); 25 cents paid in 1949.

What Others Think

A Policy for Water Resources

For the past few months the President's Water Resources Policy Commission has been junketing about the country holding regional sessions. The purpose of these meetings was to obtain on-the-spot suggestions from local groups, companies, and governments as to the proper approach to its job; namely, that of drafting a sound water policy for the Federal government. The commission's report is due on December 1, 1950. The commission's activities have caused universal interest among utilities and chambers of commerce, and these parties have readily offered their suggestions on these matters.

A good cross section of the comment and recommendations presented to the commission is seen in an examination of some of the statements made by interested groups.

D. J. Guy, manager of the natural resources department of the Chamber of Commerce of the United States, in a 15-page letter to the commission's chairman, Morris Llewellyn Cooke, outlined the chamber's stand on water resources matters. As to desirable legislation, he made the following recommendations:

> 1. . . . national legislative policies which afford full opportunity for states and their communities and for private enterprise to develop, or participate in the development, operation, and maintenance of water resources projects, including multipurpose projects.
>
> 2. Through appropriate legislation it (the Congress) should establish a consistent and progressive water and land policy for the United States which, among other things, should define the scope of the duties and obligations which the Federal government legally can and should assume and the limitations on its activities which it will honor.
>
> 3. Agencies should be required to submit to the Congress and the affected states a report showing clearly:
>
> 1. The estimated total cost of the project.
> 2. The estimated costs of actually fulfilling the respective functions of the project.
> 3. The probable allocations or assessments of costs against the respective functions.
> 4. The anticipated values of and revenues from each such function.
> 5. The proposed application of all revenues, including interest proposed to be paid to the Treasury.
>
> 4. Projects should be authorized only by act of Congress.
>
> 5. The authorization for a project should lapse and require reauthorization by Congress if construction has not been initiated within a specified time, say five years.
>
> 6. Each project should be assigned for construction and operation to the agency charged by Congress with responsibility for the principal function for which the project is authorized.
>
> 7. The Comptroller General should be vested with jurisdiction over the application of all revenues from multipurpose projects, with authority to require the devotion of such revenues to the purposes prescribed by Congress. Interest collected through the rates charged power consumers should be paid over to the Treasury as hire for the Federal money invested, and should not be applied or accounted for as though available for debt retirement.
>
> 8. In connection with the exercise of its constitutional jurisdiction over

the rivers of the nation through the construction of works and improvements of navigation, the Congress should recognize the interests and rights of the states in water utilization and control; preserve and protect to the fullest lawful extent established and potential uses for all purposes; and limit the authorization and construction of navigation works and improvements to those the operation of which will be consistent with the fullest use of the waters of such rivers for all purposes in the public interest.

9. Section 9(e) of the Reclamation Project Act of 1939 should be by appropriate amendment to the act, either eliminated entirely therefrom, or so changed as to assure to the water users the ownership of the water rights the same as they would derive under the original water-right contract policy.

10. The Congress should give statutory reaffirmation to state ownership of all lands beneath navigable waters within the boundaries of each of the respective states, established by their several enabling acts, including lands beneath tidal waters, those extending for three nautical miles (or to other established state boundaries) seaward beyond ordinary low-water mark of coast lines and those beneath bays, inlets, lakes, and rivers.

A STATEMENT of Thomas W. Delzell, chairman of the board of Portland General Electric Company, presented to the commission at its northwest regional meeting outlines the stand taken by a utility in an area of extensive Federal power development. The following recommendations were made in Mr. Delzell's statement:

1. The Federal government should participate in electric power production only in connection with works for improvement of navigation, control of floods, and reclamation of arid lands. Such participation should come under the provisions of the Federal Water Power Act in the same manner and to the same extent as such act now controls installations by municipal bodies and private persons. All projects not involving navigation, reclamation, and flood-control purposes should be left for development by states, municipalities, and private individuals or companies, and they also should have the prior opportunity to develop all or such parts of the multiple-purpose projects as they can.

2. A clearly established limitation should be placed upon the Federal government's responsibility for marketing the power it produces at multipurpose projects. This responsibility should include the construction and acquirement of only such transmission lines and related facilities as are necessary to interconnect projects in accordance with sound engineering and business principles and to achieve delivery of power in wholesale quantities to distributing systems and to large industries. The sales to industry should be confined to those able to take service in large quantities direct from the Federal system and unable to secure adequate service from the public and municipal utilities. The government should not seek to extend itself beyond this point, into the field of distribution to the general public, nor should it seek in any way to influence or dominate the ideological pattern of distribution to the general public by the practice of subsidization, discrimination, proselyting, or any form of coercion.

3. The danger of monopoly is not lessened by making it the agency of government. Because power-marketing agencies of the Federal government have become important suppliers of a public utility service, and because the essence of a public utility service is that it be made available to all who require it upon reasonable and nondiscriminatory terms, it is not fitting that these agencies themselves should be permitted to determine what is reasonable and what is nondiscriminatory. Such agencies should have no powers to regulate others as in some respects is now the case. Rather they should themselves be regulated by an independ-

ent and impartial arm of the government, whose findings and orders are subject to judicial review. Such an independent regulatory arm could and probably ought to be the Federal Power Commission.

4. The powers of the regulatory arm should include the licensing of both Federal and non-Federal generating installations upon streams, over which the Federal government has jurisdiction; the determination of the public convenience and necessity of transmission lines and other facilities proposed to be built or acquired by Federal power-marketing agencies or by others where Federal interests are involved; supervision of accounts in accordance with law and standard regulatory practices; approval of rates and tariffs; and enforcement of reasonable and nondiscriminatory standards of service.

5. Subsidization, in whatever form, creates an area of economic vacuum from which unsubsidized enterprises are expelled and into which the subsidized enterprises rush. If the foreclosure of individual enterprise is to occur in our business, it will be by this route more than any other. Therefore, rates for the sale of power from Federal projects should be at least sufficient to cover (a) the full cost of maintenance and operation of power production and transmission facilities; (b) interest upon the capital investment allocated to power at least equal to the cost of capital borrowed by the Federal Treasury; (c) amortization of capital investment allocated to power over a reasonable period; (d) the cost of interim replacements of power facilities; (e) repayment over a reasonable period of any capital costs not allocable to power, but which must be repaid from power revenues in order to make projects self-liquidating; (f) taxation or payments in lieu thereof equal in amount to those which would be assessed were the facility in nongovernment hands.

6. It is proper that there exist guaranties in Federal statutes governing the marketing of federally produced electric power which prevent its monopolization. The preferences granted public bodies and coöperatives in present Federal laws are partly based upon such a premise. However, there are hundreds of thousands of people in the states of the Pacific Northwest, and elsewhere, who do not receive electric service through the medium of public bodies or coöperatives, but instead through government regulated utility companies. These people have a right to expect protection from monopolization of benefits from Federal projects. The experience of the last few years has demonstrated the need for additional guaranties in Federal law which will assure equitable allocation of power benefits as between the people of states and areas affected by Federal projects, and which will carry out more fully the original intent of Congress that consistent with sound business principles the widest possible distribution of federally generated power, particularly for the benefit of the domestic and rural consumers, be achieved.

"I STILL SAY AN UPSTAIRS TELEPHONE EXTENSION WOULD BE BETTER."

Present preference and priority provisions should be reviewed and amended to provide a proper guaranty against any abridgement of rights to the use and benefits of water resources, including the energy that can be produced thereform, presently vested in the states. This guaranty should provide, in the interests of equity, that all power generated at Federal projects within a river basin should be fairly and equitably distributed or allocated among the several states within such river basin, by a properly constituted independent Federal commission or agency (the Federal Power Commission is suggested) after giving effect to all relevant factors and subject, from time to time, to revision and judicial review.

The amended preference and priority provisions also should grant a priority right to regulated public utilities which distribute federally generated power without profit upon the Federal investment, ahead of large industrial users.

A SPOKESMAN for Governor Rennebohm of Wisconsin told President Truman's Water Resources Policy Commission at a regional session in Columbus, Ohio, that the Wisconsin Public Service Commission is doing a good job of controlling water-power developments in the state and needs no help from the Federal Power Commission.

Martin W. Torkelson, director of regional planning for the state planning board, of which Rennebohm is chairman, said that the FPC is "usurping" state regulatory powers.

Torkelson made the following statement in his report:

> The Federal government should modify its present water-power policy in accord with the realities.
>
> FPC requirements are unreasonably exacting in that they contemplate flood far greater than recorded experience can reasonably justify. Compliance will involve costs far beyond the usual ability of private enterprise which, if incurred, will be a burden on the consuming public.
>
> There is no good reason for this, since supervision of these dams by the state public service commission is entirely adequate, and its activities antedate those of the FPC.

At the same meeting, M. W. Kyler, Wausau, manager of the Wisconsin Valley Improvement Company, and R. W. Peterson, Madison, counsel for Wisconsin electric companies, urged state legislation to "encourage development of streams . . . through investment of private capital instead of the use of taxpayers' money."

The Wisconsin River Valley Improvement Company has built up twenty-two reservoirs on the upper Wisconsin river, and twenty-six power plants located at intervals from Vilas to Sauk counties "without a cent of cost to the taxpayers," Kyler said.

The development company was formed by three private power and paper mill companies. The company, and the dams, and power plants it operates, are regulated by the state public service commission.

PETERSON told the group that sound legislation plus private capital, without one penny of subsidy of any kind, have served to develop Wisconsin's rivers for the maximum production of power, control of floods, and augmenting minimum stream flows with numerous reservoirs.

Witnesses from New York and New England at a Springfield, Massachusetts, meeting of the commission, recommended interstate compacts in preference to direct Federal aid, for developing water potentials in their area. The 7-man commission heard direct testimony from thirty-five representatives of public utilities, chambers of commerce, labor organizations, and state officials, and received statements from almost as many more in a 5-hour session.

At a press conference, Morris Llewellyn Cooke, Philadelphia engineer and chairman of the President's commission,

"OH, MR. BROWN, ABOUT THAT AUTO INSURANCE . . . I'VE DECIDED TO TAKE OUT A POLICY!"

said the sentiment in favor of interstate solution of water resources problems in New England had followed the general pattern of previous hearings.

Leland Olds of New York, former chairman of the Federal Power Commission, declared, however, that the New Englanders had demonstrated a "more genuine" willingness to undertake the financing of projects at the interstate level than had other sections.

The commission members agreed also that at the state administration level the New England testimony had shown a definite pattern, with the three upper states of Vermont, New Hampshire, and Maine opposed to Federal grants, Massachusetts and Rhode Island in favor of them, and Connecticut divided as to areas of direct Federal aid.

Dean Paul S. Burgess of the College of Agriculture, University of Arizona, and a member of the commission, held that it was "obvious that a definite pattern of thought has developed in the three upper New England states as compared to that of the other three."

GOVERNOR Paul A. Dever of Massachusetts, the only chief executive of the six New England states to appear as a witness, recommended multipurpose water-use projects with Federal aid. His view was concurred in by Henry Ise, chairman of the Rhode Island Division of Harbors and Rivers, who suggested 75 per cent Federal funds to 25 per cent at the state level.

Rhode Island, Mr. Ise added, was primarily concerned with development of water-power development as an incidental solution to its water supply and irrigation problems.

M. R. Stackpole, chairman of the Maine Public Utilities Commission, held that government participation in water resources development should be limited to research and guidance. Speaking for New Hampshire, Walter G. White, acting chairman of the state water resources board, asserting that interstate coöperation was the best answer, said that "nothing can be accomplished by Federal authority that can't be done at least as well on an interstate level."

Philip Sheltner, Vermont water resources commissioner, was the only witness who directly mentioned the Korean situation. He held that in face of the crisis "only those projects which will produce direct benefit or protection for industrial production be considered by the Federal government."

Richard Martin, director of the Connecticut Water Commission, held that there was no need for Federal aid in "municipal, agricultural, or industrial water supply, pollution abatement, or construction of transmission power lines," but favored such aid in state power, flood-control, and navigation projects.

Among New York witnesses was Morris M. Cohn, consultant to the New York Legislative Committee on Interstate Coöperation, who appeared officially as a representative of the Interstate Commission for the Lake Champlain basin, which includes New York and Vermont. He put on record a resolution adopted last week by his group, urging the President's commission to "recognize the inherent right of the ability of the states" to develop their own resources.

The March of Events

In General

Symington Advised Electric Industry Ready for Defense

THE electric industry is in even better shape to meet the present defense emergency than it was when the nation began to get ready for World War II, L. V. Sutton, president of the Edison Electric Institute, recently reported to W. Stuart Symington, chairman of the National Security Resources Board.

There will be plenty of power to meet the needs of the country, Mr. Sutton said in a letter to the NSRB chairman, provided that "no government limitations are imposed which would prevent the completion of the construction program now under way."

This year, Mr. Sutton continued, the electric industry will have a total generating capacity of 67,500,000 kilowatts, which is nearly double what it had at the beginning of 1941. The current utility construction program will add another 12,000,000 kilowatts of capacity by the end of 1952. He also pointed out that the country's electricity production resources include 13,500,000 kilowatts of generating capacity in major industrial plants.

Nearly four times as much new generating equipment is on the power lines today, as there was in 1940, the EEI executive noted. As of the present, he explained, 30,000,000 kilowatts of the industry's generating equipment is less than ten years old, with all the advantages of economy of operation and relative freedom from mechanical breakdown possessed by modern machinery.

"A vast reservoir of surplus electric power is ready to be tapped for any possible needs," Mr. Sutton added. "This year," he continued, "reserves total 9,000,000 kilowatts. They can, if necessary, generate more than 50 billion kilowatt hours a year. A greater use of operating capacity through second- and third-shift operation of industry would make available at least another 50 billion kilowatt hours a year.

"This total of more than 100 billion kilowatt hours a year would represent an increase of one-third in presently available energy from the resources we now have, and would enable us to nearly double our present use of electricity in major industries."

In this connection, however, Mr. Sutton observed that the great reservoirs of unemployed and the idle industrial capacity that existed in 1941 are not available today. Instead, men and supplies for defense work must be diverted from nonessential industries. This shift, he said, will tend to reduce the demand for power for such purposes.

Almost coincidental with his letter to Chairman Symington, Mr. Sutton, in an American Broadcasting Company nationwide radio "roll call" of nine major industries, reported the present firm position of the electric industry to meet defense demands for production that will be dependent upon electric power.

Water Carriers Complain of Rates

FOR more years than can be recalled, railroads have accused the Federal government of unjustly discriminating against their enterprise through publicly financed water traffic routes and aids. A

late report from Birmingham, Alabama, indicates that the Tennessee Valley Authority is now being "discriminated against" by the Interstate Commerce Commission with respect to river boat traffic.

Briefly, TVA, joined by Commercial Barge Lines, Inc., of Wayne county, Michigan; and J. Allen Smith & Company, a grain company of Knoxville, Tennessee, have charged in a formal complaint filed in Birmingham, Alabama, Federal District Court that the ICC is discriminating against river boat traffic.

The complaint charged that an ICC ruling of May 3, 1949, is an "advantage to traffic into Knoxville by rail" and a "disadvantage to the port of Knoxville, and traffic into Knoxville by boat." The ruling, according to the complaint, raised rates for switching train cars from barges to rail lines from $16.62 to $25.78 per car. The railroads involved — the Southern and the Louisville & Nashville—get more for switching barge shipping than for switching other transportation, the plaintiffs asserted, adding that "development of water transportation through the port of Knoxville will be stifled if an injunction is not issued."

Cancel Transit Convention

OFFICIALS of the American Transit Association have announced cancellation of the 1950 convention because of the "uncertainties of the international situation." The convention had been scheduled for September 25th to 27th, inclusive, in Los Angeles, California.

A 2-day session for executives will be held September 18th and 19th in Chicago to discuss problems that will confront the industry as a result of the "war preparedness program now taking shape in Washington."

California

Handles Record Load

THE greatest peak in power demand in the history of central and northern California was recently met by the Pacific Gas and Electric Company when consumers of the area demanded, and received, 2,519,000 kilowatts of energy in a single week, as the company met the demand with 476,000 kilowatts to spare—a margin of 19 per cent. The new peak was 209,000 kilowatts over the 1949 high, and 123 per cent above the peak of ten years ago.

Significance of this accomplishment is twofold, according to PG&E President James B. Black, who stressed that the facts show advocates of socialized power "ignore the record" when making public statements about the power situation in California. These advocates of public power, he continued, persist in public statements that private industry will fall short in meeting the requirements of the area, and that aid of government is imperative to keep pace with the growing demands for power. "Such statements are simply not true," Mr. Black declared.

This meeting of record demand with ample margin over, adds emphasis to the accomplishments of the company's $800,000,000 postwar construction program, he continued, adding that this program enabled PG&E to meet demand increases of approximately 200,000 kilowatts a year and also to restore reserves.

District of Columbia

Conflicting Utility Interests Grow Out of Rate Petition

A. G. NEAL and Robert V. Fleming, both members of the board of directors of the Potomac Electric Power Company, have resigned as board members of the Capital Transit Company.

Their resignations followed the transit company's recently announced opposi-

tion to the power company's pending petition to the public utilities commission for rate increases (see page 255, August 17th issue) to enable continuation of its $128,000,000 expansion program.

Neal is president and chairman of the board of the power company. Fleming, president and chairman of the board of a local bank, said he resigned from the Capital Transit board because he found himself "in a position of conflict." He said his decision to resign from the transit board and remain with the power company was no reflection on the former.

In the meanwhile, the transit company has intervened in the power company's request for rate increases under which the transit company would be forced to pay $661,000, or 70 per cent more annually for electricity to operate its cars.

New Hampshire

Organize to Combat Federalization

ORGANIZATION of state forces to resist Federal encroachment upon water resources has been perfected as a result of plans recently drawn by the state Council on Resources and Development.

Following the suggestions of Walter White, chairman of the Water Resources Board, and Wentworth Brown, chairman of the State Planning and Development Commission, the council, as a first step in its plan of resistance to federalization of the Granite state's water resources, voted to request the New Hampshire congressional delegation to furnish all records, exhibits, and statements entered before the President's Water Resources Policy Commission, at hearings held throughout the country on the question of development of water resources.

Plans call for evaluation of this material as the possible basis for legislation which the congressional delegation might be asked to introduce into Congress in the interest of water resources development in New England.

Action of the two state bodies followed a report on a hearing before the WRPC at Springfield, Massachusetts, July 25th.

Brown said that following the Springfield meet, the WRPC held a "press conference—with itself," and its releases to the newspapers were "colored, misleading, and did not express the majority opinion." He also declared that only six of thirty-five witnesses favored Federal development of water resources.

The remainder, he added, wanted water-power development left in the hands of private interests. Included in this latter group, Brown said, were representatives of the American Federation of Labor, the Congress of Industrial Organizations, as well as industry. Government assistance, limited to technical advice, was as far as this group would go, Brown said.

And of the six in favor of government participation, Brown continued, Governor Paul A. Dever (Democrat, Massachusetts) made the only effective plea.

New York

Municipal Power Plant Abandoned

THE city fathers of Penn Yan, central New York village, have decided to abandon its municipal power plant, which had been in operation over thirty years, in favor of power purchases from New York State Gas & Electric Company.

Studies revealed the cost of generating power with present equipment was too high, while the village was without funds to build a new plant.

The municipal board explained abandonment "is only a temporary measure due to high costs and conditions of the times and the matter will be reviewed from time to time, and, if conditions so warrant, the building of a new municipal

generating plant will be given further consideration."

For some years the town has made headlines through giving consumers free service during the month of December as a sort of Yule present.

North Carolina

CP&L Announces Expansion Of Lumberton Plant

A TREND toward strengthening the eastern Carolinas' industrial resources was noted in the recent announcement by Louis V. Sutton, president of the Carolina Power & Light Company, that a 75,000-kilowatt generating unit would be installed in the company's steam-electric generating plant at Lumberton. The new unit will increase the plant's capacity by 75 per cent, making Lumberton a concentration point for power in the two Carolinas.

The new unit should be in production by the end of 1952, Sutton said, adding that equipment has been ordered, and engineers of Ebasco, Inc., builders of the original plant, will be moving in soon for preliminary work, with several hundred construction men to follow in a few months.

At present, construction of a 150,000-kilowatt CP&L plant at Goldsboro is under way, and the first unit of 75,000 kilowatts capacity is expected to go into production by the summer of 1951, with the second unit on the line a year later. The Lumberton and Goldsboro plants, when completed, will have more than ten times the firm energy capacity of the government's hydroelectric plant being constructed at Buggs Island, which Army Engineers estimate will be 200,000,000 kilowatt hours annually.

South Carolina

Sale of Gas System Approved

THE Spartanburg city council recently adopted an ordinance consenting to the sale by Duke Power Company of its local gas franchise, manufacturing plant, and distribution system to Piedmont Natural Gas Corporation. The sale is subject to a special election, presently scheduled to be held September 5th.

Spartanburg is one of a number of cities in the Carolinas where Piedmont has negotiated to take over Duke Power gas facilities for the distribution of natural gas. Donald Russell, attorney for Piedmont, stated Piedmont is to pay $5,000,000 for the Duke gas facilities in the two Carolinas.

West Virginia

Point Pleasant Plant Dedicated

AMERICAN GAS & ELECTRIC COMPANY recently dedicated its Philip Sporn plant on the Ohio river, just above Point Pleasant. Costing $66,000,000, the new plant is designed for an ultimate generating capacity of 1,000,000 kilowatts which would make it the world's largest steam-generating plant.

The new Philip Sporn station already has in operation two units of 150,000-kilowatt capacity each, and expects to add a third unit by May, 1951, and a fourth by December of the same year. The two units now installed will provide power to serve the average demands of 600,000 residential customers. When completed, the project will have cost over $100,000,000.

Dedication of the plant climaxed twelve years of preliminary work, which began in 1938 with the lining up of coal reserves in Ohio. Actual construction did not begin until June, 1947.

Progress of Regulation

Power Commission Authority to License Line Crossing Federal Lands Is Limited

THE United States Court of Appeals for the District of Columbia upheld an order of the Federal Power Commission dismissing an application for amendment of a power project license so as to include a line across government land. The commission had declined to issue the amendment on the ground that it had no jurisdiction to do so.

The attorneys for the parties agreed upon this statement of the question presented to the court for decision:

> By virtue of the Federal Power Act, does the Federal Power Commission have exclusive jurisdiction to authorize construction, maintenance, and operation of an electric transmission line, conveying energy from hydroelectric sources, which crosses lands of the United States (which are not alloted Indian lands or lands in national monuments and national parks), regardless of the basic nature, purpose, and function to be served by such lines?

Under that stipulation, said the court, it could ignore the basic nature, purpose, and function to be served by the line involved. It might assume that the line was not part of a project and was not a primary line. The Federal Power Act authorizes the commission to issue licenses for the purpose of constructing, operating, and maintaining dams, water conduits, reservoirs, powerhouses, transmission lines, or other project works necessary or convenient for the development, transmission, and utilization of power upon any part of the public lines of the United States. The critical words, said the court, are "other project works." These words mean that the things listed in the sentence are project works and the law does not include reservoirs, powerhouses, or transmission lines which are not project works.

The words being clear, said the court, it was not necessary to attempt to ascertain the congressional purpose in enacting the statute. It observed, however, that the purpose of Congress appeared to have been to place in one agency authority over the development of the hydroelectric resources owned or controlled by the national government and would encompass the auxiliary facilities which are parts of those projects. Such a purpose would not necessarily encompass transmission lines or other facilities which are not parts of such projects.

The court, in view of this interpretation and the stipulation that the question was whether the commission had authority over the line regardless of its nature, purpose, or function, ruled:

> Our answer is that, unless the nature, purpose, and function of the line is such as that it is a part of a power project, it does not fall within the statutory definitions which establish the authority of the commission, and is not to be forcibly enveloped in the statutory language by the compulsion of a congressional purpose inadequately expressed.

Reference was made to an argument

that from 1920 to about 1941 the commission did, as a matter of fact, issue licenses for transmission lines which did not fall within the statutory definition of its authority. The chief counsel for the commission had rendered an opinion that the authority of the commission would extend to licensing lines not within the definition of a project. The court disagreed and also said that the administrative practice could not be given effect as altering the statute itself.

It had been argued that by reënacting, in 1935, the provisions of the act of 1920, Congress adopted the administrative interpretation. The court said that there was nothing to show that the attention of Congress was drawn to the administrative practice; at best, the reënactment of statutes is a nebulous foundation for statutory construction, and before a mere reënactment can be given conclusive effect as a congressional adoption of an administrative interpretation, it must be shown that Congress was conscious that it was doing so. *Pacific Power & Light Co. v. Federal Power Commission (No. 10432).*

Separate Charges for Handsets Eliminated

THE Wisconsin commission authorized a rural telephone company to increase rates so that it would earn a return of 4.4 per cent on its net book value rate base, which the commission did not consider excessive.

A separate charge of 25 cents a month for handsets was eliminated. The handset is the standard instrument for automatic service and rates should provide for the standard instrument.

The commission observed that the company proposed the same rate for 4-party business as for 2-party business service. The commission did not approve of this and directed that a proper differential be established. *Re Oconto Rural Teleph. Co. (2-U-3290).*

Factors Affecting Authorization of Natural Gas Pipe-line Facilities Reëmphasized

THE Federal Power Commission issued an opinion supporting earlier orders authorizing the Commonwealth Natural Gas Corporation rather than the Piedmont Natural Gas Corporation to construct and operate pipe-line facilities to serve in the Tidewater area of Virginia. Each company sought that authority. The commission reëmphasized some of its responsibilities under the Natural Gas Act in determining whether authorization of a project is required by public convenience and necessity.

The commission has previously held that public convenience and necessity raise the question of public interest. It must ascertain not only the need for gas in the area to be served, but also the desirability of the manner in which service is to be furnished. The commission must determine whether all persons similarly situated will receive equal benefits, or whether some will be granted undue preferences or advantages.

The commission said that in order to warrant the issuance of a certificate, it must be convinced that the company seeking authority has an adequate gas supply available under favorable terms and that it can economically deliver such gas in a manner and at prices beneficial to all customers desiring and reasonably entitled to service.

The Piedmont company proposed to sell a major part of its gas supply to a power company for boiler fuel use. This proposal was held to be contrary to the public interest because of a large demand for gas for other uses. This company's contract reserved to the power company all gas available in excess of firm require-

ments of domestic, commercial, and industrial customers not involving the generation of electric power.

Thus, other industries would be deprived of the opportunity of buying gas on an interruptible basis. No consumers in the area except that particular power company could purchase gas for the generation of power, even on a firm basis. The commission held this agreement to be unduly discriminatory and preferential and, consequently, unlawful.

The proposed pipeline would result in the displacement of coal and would have an adverse effect on the coal and railroad industries. The commission refused to say, however, that this alone would be determinative of the question whether or not a certificate should issue where considerations of the broad public interest (the interest of all potential consumers, the public welfare, or national defense) outweigh the adverse effect that natural gas service might have on competitive fuels. *Re Commonwealth Nat. Gas Corp. et al. (Docket Nos. G-963 et al.).*

Municipal Acquisition of Water Facilities Disapproved In Absence of Assured Supply

THE West Virginia commission denied a municipality's application for authority to acquire, by condemnation or eminent domain proceedings, water facilities lying within its corporate boundaries. It was impossible for the commission to find that the users of water service would not be adversely affected if the authority were granted.

The municipality's assumption that it could purchase water from another city at rates fixed by the commission was unsupported by the evidence offered. The witness called in support of that assumption testified in effect that the other city was in a position to furnish to the applicant sufficient water to meet the demands made upon it for service if the application were granted. He was not authorized to speak for the city which would furnish the water supply. He assumed that it would be agreeable to those in authority to furnish that water at such rate as it would fix. The commission held that it does not have authority to require a city to furnish water to another city for resale to its customers.

The commission stated that the burden was upon the municipality to show that if it should be granted the authority for which it has applied, the users of water in that area would not be adversely affected. The city failed to do this. The kind and quantity of property in the water system sought to be condemned and the probable value of that property were not known. Even more important, the commission said, was the fact that the city had not shown that it could obtain its water supply or the rate it would be required to pay for water even if it could obtain it. *Re Benwood (Case No. 3014).*

Steam-heating Service Abandoned Because of Losses

THE Montana commission authorized an electric company to discontinue steam-heating service because of operating losses. Steam-heat customers have been converting to natural gas heating equipment. The commission believed this trend would continue because gas was available to persons using the company's steam-heat facilities.

Evidence indicated the cost of heating by gas is much less than the existing cost of steam heat. The savings of gas over steam at rates which would have to be charged for steam service in order to pay proper charges would be even greater.

Abandonment of the steam utility would require present users to install conversions to permit the use of gas and this would be expensive. But the commission pointed out that a utility cannot be required to operate at a loss. However, before it abandons service it should

use every means at hand, including applications for rate increases, to augment its revenues and avoid abandonment.

In this case, to permit continuation of the heating operations and payment of operating expenses, depreciation, taxes, and return on investment, the company would require an increase of about 85 per cent in present rates. As more customers discontinued service the necessary rates would increase. Consequently, the commission believed that no purpose would be served by a rate increase. Any rate that would be sufficient would be impractical. *Re Montana Power Co. (Docket No. 3755, Order No. 2119).*

Commission Approves New Telephone Rates; Accepts Original Cost Rate Base; Allows Pension and License Contract Expenses

THE Virginia commission approved a rate increase for the Chesapeake & Potomac Telephone Company on evidence that under existing rates a return of only 3.7 per cent was being earned. While company witnesses had testified that new rates should yield a return of 7 per cent, the rates authorized would allow 6 per cent.

A controversy arose between the company, the commission, and various interveners as to the proper rate base. It was generally conceded that present fair value should be used. The dispute arose as to the meaning of "fair value."

The commission pointed out that in Virginia it had been the practice, from before World War I to 1944, to use original cost with proper consideration being given to replacement costs. But since the Supreme Court decisions in the Hope Natural Gas Co. Case (1944) 320 US 591, 51 PURNS 193, in which net original cost was used to determine value with no consideration being given to reproduction cost, the Virginia commission has not permitted replacement cost figures to affect its evaluation. As a matter of fact, practically every rate base in Virginia since the "Hope" Case has been filed by the utilities themselves on the cost basis.

The commission eliminated reproduction cost from consideration with these remarks:

> The property of this company now in service has been assembled over a long period and has been engineered to meet a variety of conditions and circumstances and has been altered and modified to meet operating conditions, as they changed during the life of the property.
>
> We believe it would be illogical to assume, even for rate-making purposes, that the exact plant now being operated by the company would be reproduced under existing conditions... In addition, these reproduction cost estimates are based, in the main, on prices furnished by the Western Electric Company, and some of the items priced are no longer being produced by Western Electric and others never were. It involves duplicating items of equipment and even buildings which are virtually obsolete and ready to be discarded, for many of which presumably the patterns, molds, and dies have been destroyed and could not be reproduced except at prohibitive cost.
>
> In short, it is a theoretical reproduction of something which, as a practical matter if it did not exist, would not be produced in its present form and locations. As this highly theoretical process had questionable probative value in times of normal and stable economy, it has even less value at the present time. It is predicated too much on assumptions and not facts. It is entirely too conjectural.

The use of a rate base consisting of total original cost less depreciation reserve plus proper allowance for working capital was approved by the commission. It commented on the validity of such a rate base in these words:

> Utilities are not able to pick and

choose the periods when they will install plant. If the servicing of the public requires the installation of additional facilities, the utility may not defer the investment merely because price levels appear to be high. Under the conditions in this postwar period, utilities have found that meeting the public's demand for service has required the installation of considerable additional plant at price levels much higher than those which prevailed before the war. The use of an investment rate base under such circumstances is sound, we believe, from the standpoint of both the customer and the utility.

Separations of revenues and expenses in accordance with the NARUC manual were described as the best available at the present time for allocating between intrastate and interstate operations and were adopted for this proceeding.

The expert witness for the objectors to the rate increase included no amount for materials and supplies in the figures he presented. The commission, rejecting this exclusion, remarked that it was the first time in its memory that anyone had taken such a position in a Virginia rate case.

The commissioner examiner had made no allowance for working capital because of the availability of accumulations for Federal excise taxes, employee contributions for old-age benefits, state unemployment, local excise taxes, etc. The commission did not consider that these tax accruals were a proper offset against cash working capital requirements. These taxes represent amounts for which the company acts merely as a collecting agent for governmental authorities and cannot properly be considered available working capital.

Pension expense, both as to relief benefits and as to payments set aside annually on an actuarial basis to provide the stipulated benefits in the pension plan to eventual pensioners, was allowed. A "pay as you go" proposal for this allowance made by one of the interveners, in which each year the company would be allowed actual disbursements from the pension fund, was rejected. The commission's approval of pension expenses also included sums paid into the pension fund to "freeze" the unfunded actuarial reserve requirements at the level it had reached in 1937.

Payments made by the company to its parent company, American Telephone and Telegraph Company, under a license contract providing for payments of one per cent of gross revenues, were likewise approved. These payments were not, in the judgment of the commission, in excess of the value of the financing, engineering, patenting, and other services provided by the parent.

A proposal by one of the expert witnesses for the interveners that the commission do nothing about increasing rates until 1952, when more normal conditions would be attained, was rejected. The proposal was called unsound in that it would deny the company a fair return on the fair value of its property until 1952.

Commission Chairman King dissented in a separate opinion in which he held that a 5¼ per cent return would provide the company with sufficient revenues to meet its requirements and to attract new capital by providing dividends for investors. *Re Chesapeake & Potomac Teleph. Co. (Case No. 9626).*

District's Complaint against Utility's Expansion Dismissed

THE Missouri commission dismissed a water district's complaint against a utility's alleged invasion of territory where the utility's certificate, awarded in 1925, was broad enough to include the territory to which it planned to extend its lines.

The commission observed that the incorporators of the water district knew, or should have known, the utility's boundaries when the district was formed about ten years ago. No reason existed, the commission said, for limiting the water company's boundaries in the pro-

ceeding at hand. The district is not under commission jurisdiction and would not be bound by any decision made. Since, under these circumstances, any orders issued would bind only the company, the commission left the parties as it found them. *Public Water Supply Dist. v. Raytown Water Co. (Case No. 11,664).*

Other Important Rulings

THE Missouri commission authorized a railroad to provide only a caretaker at what was formerly an agency station when the general public's use of the station fell off to the point where profitable operation of an agency was no longer possible and no great inconvenience to the public would result from the service reduction. *Re Thompson (Case No. 11,762).*

A shipper's complaint against a railroad for refund because of unreasonable freight rates for steel plate shipments was dismissed by the California commission, which found that the rates in question, while preferential, were not unreasonable. No proof of loss or damage by reason of the preferential rate had been offered and no measure of reparation was available. *Southern Pipe & Casing Co. v. Pacific Electric R. Co. (Decision No. 44009, Case No. 5160).*

The Massachusetts Department of Public Utilities held that a motor carrier's practice of extending reduced rates to certain governmental or municipal authorities solely because of their nature constitutes unfair discrimination and places an undue burden on the general shipping public using motor carrier service. *Re Walsh (C. S.) Motor Transp. (DPU 8994).*

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Public Utilities Reports (New Series) are published in five bound volumes annually, with an Annual Digest. These Reports contain the cases preprinted in the issues of PUBLIC UTILITIES FORTNIGHTLY, as well as additional cases and digests of cases. The volumes are $7.50 each; the Annual Digest $6.00. *Public Utilities Reports* also will subsequently contain in full or abstract form cases referred to in the foregoing pages of "Progress of Regulation."

Re Southern Bell Telephone & Telegraph Company

Docket No. U-2983
May 24, 1950

APPLICATION *for authority to increase intrastate telephone rates; rate increase authorized. For earlier decision, see (1947) 72 PUR NS 264, and for Supreme Court decision, see (1949) 81 PUR NS 584.*

Return, § 15 — Reasonableness — Definition of fair return.

1. A fair return for a public utility company is one which, under honest accounting and responsible management, is just and reasonable both to the public and to the utility, p. 68.

Return, § 44 — Risk factor — Telephone company.

2. A telephone company is not entitled to such profits as might attend more speculative enterprises since its rates, in order to be reasonable, must be commensurate with the risk, p. 68.

Expenses, § 87 — Payment to parent telephone company — License fee.

3. A payment of one per cent of a telephone company's gross intrastate operating revenues to the parent telephone company under a license contract was upheld where the services rendered by the parent company were of substantial value to the subsidiary, the cost of the services as allocated to the subsidiary was less than the cost incurred by the parent company in their rendition, and it was improbable that the subsidiary could have obtained the essentially needed services at a lower cost from any other source, p. 69.

Expenses, § 85 — Payment to affiliate — Telephone equipment.

4. Payments made by a telephone company to an affiliate for equipment and supplies were allowed as proper operating expenses for rate-making purposes where the prices paid were substantially less than those charged by other manufacturers for similar materials, the telephone company was not obligated to and did not purchase from its affiliate if it could buy more advantageously from others, and the supply company's profits were less than those of other manufacturing companies, p. 70.

Valuation, § 213 — Rate base determination — Property held for future use.

5. Property held for future use should be excluded from a telephone company's rate base, p. 71.

Valuation, § 38 — Rate base determination — Plant acquisition adjustments.

6. Telephone plant acquisition adjustments do not represent the value of properties used and useful in the rendition of intrastate service and should be excluded from the rate base, p. 71.

Expenses, § 26 — Explanation of proposed rate increase.

7. The cost incurred by a telephone company in contacting large numbers of public officials and prominent and influential citizens during the pendency of a rate case for the purpose of explaining the company's position in seeking a rate increase is not a proper operating charge for rate-making purposes, p 72.

Return, § 111 — Telephone company.

8. A return of 6 per cent on a telephone company's net investment was considered fair because it would produce funds sufficient to pay the company's intrastate proportion of interest on debt securities and an earning rate for equity capital in excess of 8 per cent, p. 74.

Apportionment, § 7 — Telephone company — Separations Manual.

Statement that separation procedures set forth in the Separations Manual developed by the National Association of Railroad and Utilities Commissioners, the Federal Communications Commission, and representatives of the telephone industry produce reasonably accurate results, p. 70.

Rates, § 131 — Reasonableness — Improvement of service.

Statement that the Commission, in authorizing a telephone rate increase, will require the company to continue and greatly enlarge its efforts to meet the demand for telephone service throughout the entire state and to report its progress at such intervals and in such manner as the Commission may prescribe, p. 77.

APPEARANCES: Edward W. Smith, General Counsel, for Southern Bell Telephone and Telegraph Company; John T. Goree, Counsel, for Southern Bell Telephone and Telegraph Company; Jefferson Davis, General Attorney, for Southern Bell Telephone and Telegraph Company; William Hume, for Southern Bell Telephone and Telegraph Company; Cecil Sims, for Southern Bell Telephone and Telegraph Company; J. O. Bass, for Southern Bell Telephone and Telegraph Company; Alfred T. Levine, Sr., for Tennessee Hotel Association; James J. Pleasants, Jr., for city of Memphis; Joe W. Anderson, for city of Chattanooga; E. C. Yokley, for city of Nashville; Neill S. Brown, for city of Nashville; Leon Jourolmon, Jr., for the cities of Memphis, Chattanooga, and Nashville, and for the citizens of Cordova; William A. Roberts, for the cities of Memphis, Chattanooga, and Nashville, and for the citizens of Cordova; Russell Rice, for city of Jackson.

By the COMMISSION: On June 14, 1949, the Southern Bell Telephone and Telegraph Company (hereinafter referred to as the "company") filed a petition with this Commission requesting the fixation of rates and charges for the company's intrastate service in Tennessee which would produce in addition to the amount of gross revenue then being received by the company from users of its service in Tennessee an additional $6,560,160 per year, which the company alleged to be necessary in order to provide it with a fair return.

The cities of Chattanooga, Memphis, and Nashville intervened in the

proceeding and actively participated in all of the hearings in opposition to the proposed increases in Tennessee intrastate rates and charges sought by the company.

Hearings began on September 6, 1949, before the full Commission and testimony was received thereafter at intervals through December 9, 1949. Counsel for the company and for the intervening cities filed well-prepared briefs on January 9, 1950, and the full day of January 16, 1950, was consumed in the presentation of oral argument. Thereafter reply briefs were filed by the company and by the cities.

The record in this case includes approximately 3,694 pages, in addition to 214 exhibits, many of which are of a voluminous nature, and the hearing of the case consumed twenty-four days during which the proceedings were actively in progress.

This case has probably consumed more actual time of the Commission and its staff and is more voluminous in nature than any proceeding engaged in by this Commission in recent years.

Organization and Background of the Company

The Southern Bell Telephone and Telegraph Company is a corporation chartered under the laws of the state of New York for the purpose of doing a general telephone business in the states of Tennessee, Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, and South Carolina.

The Southern Bell Company is a unit of the Bell system, and all of the stock of the company is owned by the American Telephone and Telegraph Company, a corporation organized under the laws of the state of New York. This stock is not traded on the open market, but is retained exclusively by the American Company.

The debt securities of the Southern Bell Company are held by the general public and the stock of the American Telephone and Telegraph Company is likewise widely owned.

The American Telephone and Telegraph Company, which carries on the activities of a holding company in connection with its stock dealings with the petitioner herein, also owns 50 per cent of the Bell Telephone Laboratories, a corporation engaged in research and development for the Bell system. The remaining half-interest in said Bell Telephone Laboratories is owned by the Western Electric Company. The American Company also owns 99.81 per cent of the stock of the Western Electric Company. In addition, the American Telephone and Telegraph Company owns exclusively a real estate corporation, same being the 195 Broadway Corporation, New York city. It also owns and operates the Long Lines Department, which department owns the long-distance lines, and renders long-distance service in conjunction with other telephone companies.

The Western Electric Company, referred to above, manufactures telephone equipment and apparatus for the Bell system companies and certain other customers. Under the standard supply contract, Western Electric Company also provides for the Bell system companies, including the petitioner, material and supplies required for any purpose. Western Electric further disposes of excess and junk material for the Bell system companies.

The American Telephone and Telegraph Company is also the owner, entirely or in part, of twenty-one other operating telephone companies in addition to the Southern Bell Company. The Southern Bell Company, together with ten other operating telephone companies are owned exclusively by the American Company, and of the remaining eleven operating telephone companies, the American Company owns 99.99 per cent of the stock of four of same, 99.31 per cent of the stock in one of said companies, and a majority interest in three of the companies and a minority interest in the remaining three companies.

This proceeding constitutes the second application in recent years by the Southern Bell Company for a general increase in its schedules of rates and charges for intrastate telephone service in Tennessee. On June 10, 1947, the company filed with the Commission a petition seeking a general overall average increase of 16.27 per cent in its intrastate rates and charges.

That application (Railroad and Public Utilities Commission Docket No. 2830, 72 PUR NS 264) was denied by the Commission, but was subsequently made effective by court order [(1949) 81 PUR NS 584]. The company had estimated during the course of that proceeding that the rates then proposed would increase its annual revenue in Tennessee by more than $4,000,000 based upon the stations in service as of March 31, 1947.

Legal Standards for Determining Just and Reasonable Rates

[1, 2] The Commission has given, in addition to the time spent in the actual hearing of this case, much study to this matter, keeping in mind the interest of the public in obtaining the highest quality of telephone service at a reasonable and fair rate, and the right of the company to a fair and reasonable return upon their properties dedicated to the telephone service in Tennessee.

A fair return is one which, under honest accounting and responsible management, is just and reasonable both to the public and to the utility. More than this is an unnecessary public burden. Less than this is a check to development. Such rates must, of course, be nonconfiscatory.

"Rates which are not sufficient to yield a reasonable return on the value of the property used, at the time it is being used to render the service, are unjust, unreasonable, and confiscatory, and their enforcement deprives the public utility company of its property in violation of the Fourteenth Amendment." Bluefield Water Works & Improv. Co. v. West Virginia Pub. Service Commission, 262 US 679, 690, 67 L ed 1176, PUR1923D 11, 18, 43 S Ct 675.

The rates, in order to be reasonable, must be commensurate with the risk. However, the company is not entitled to such profits as might attend more speculative enterprises.

"What annual rate will constitute just compensation depends upon many circumstances and must be determined by the exercise of a fair and enlightened judgment, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time

and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures." Bluefield Water Works & Improv. Co. v. West Virginia Pub. Service Commission, *supra*, 262 US at pp. 692, 693, PUR 1923D at pp. 20, 21.

Also see Knoxville v. Knoxville Water Co. (1909) 212 US 1, 53 L ed 371, 374, 375, 376, 29 S Ct 148:

"The fact that the company is, or is not, indebted, is wholly immaterial upon the question of a 'fair return.' . . .

"A public utility company must confine its expenditures to such as are legitimate for carrying on its business. It may not, as between itself and the public, take the same liberties as a corporation may assume as between itself and stockholders. Even between the company and its stockholders, subscriptions to charitable objects, though calculated to advance the interest of a corporation, are not permissible. . . .

"What the company is entitled to demand in order that it may have just compensation is a fair return upon the reasonable value of the property at the time it is being used for the public."

License Contract

[3] Southern Bell has an agreement with the American Company known as the license contract, under which Southern Bell is permitted to use patents owned by the American Company. The American Company, through its general department also renders various services to Southern Bell and the latter company receives certain services from Bell Laboratories. For these services and privileges Southern Bell pays the American Company one per cent of most of its gross intrastate operating revenues, the payment being charged to operating expenses.

Witnesses for Southern Bell testified that the payments it makes under the license contract are proper operating expenses and that the contract is beneficial to it in its operations in Tennessee.

A witness for the intervening cities proposed the disallowance of a large part of the amounts paid to the American Company under the license contract on the theory that certain of the services relate to the American Company functions as a holding company. This witness, however, admitted that he had made no study as to the nature and value of the services received by the Southern Bell under the license contract, and his testimony relative thereto was from an accounting viewpoint only; and the record shows that his theory of accounting to which he gave application was in direct conflict with that of a special committee of the National Association of Railroad and Utilities Commissioners and the Federal Communications Commission which had made a special accounting study of this subject.

The record shows that the services rendered by the American Company are of substantial value to the Southern Bell Company in Tennessee, and the cost of these services as allocated to Southern Bell is less than the cost incurred by the American Company in the rendition of the services and that it is most improbable that Southern Bell could obtain these essentially

needed services at a lesser cost from any other source. The Commission therefore concludes the payments made under the license agreement during the test period are not subject to adjustment.

Standard Supply Contract

[4] The Western Electric Company is the manufacturing and supply unit of the Bell system from which Southern Bell purchases most of its materials and supplies under what is known as the Standard Supply Contract. Close inquiry was made in the hearing as to the dealings between these affiliates. Southern Bell contends that this contract is also of substantial benefit to it. The interveners took the position that Western's earnings and certain of its reserves were too high and certain adjustments should be made in Southern Bell's rate-base and operating expenses to reflect a reduction in Western's previous billings for equipment and services furnished under the supply contract.

The record in this case shows that the prices paid by Southern Bell to Western Electric under the Standard Supply Contract are substantially less than those charged by other manufacturers for similar materials, and Southern Bell is not obligated to and does not purchase from Western if it can buy more advantageously from others. The record further shows that Western's profits are less in comparison with those of other manufacturing companies. Accordingly, we find nothing in the transactions between the Southern Bell and Western Electric Company under the Standard Supply Contract to warrant any adjustment of its rate base or operating expenses.

Separations

Most of the company's plant in Tennessee is used and useful in both intrastate and interstate service, and, to obtain operating results for intrastate service, disassociated from the interwoven interstate operations, it is necessary to make studies to eliminate that part of the company's investment, revenues, and expenses that is assignable to interstate. The operating results figures submitted by the company in this case are those which resulted from the application of separation procedures which are set forth in a "Separations Manual" filed as Exhibit 3 in this record. This manual was developed through the joint efforts of committees of the National Association of Railroad and Utilities Commissioners, the Federal Communications Commission, and representatives of the telephone industry. It is the product of years of highly technical study and while probably not perfect it is the best approach we have at the present time and produces reasonably accurate results.

A witness for the interveners, who admitted to no personal and practical experience in making separation studies and to no experience in the associated traffic and engineering fields, proposed to depart from the manual and reduce the intrastate rate base by apportioning the cost of station equipment and exchange outside plant on the basis of the separation of central office equipment. His proposed adjustment would be inconsistent with the "use theory," which is the fundamental basis of the "Separations Manual," and such an adjustment would be arbitrary and in conflict

with recognized separation procedures as included in the record.

Rate Base

Concerning the rate base the company offered testimony as to the original cost of its properties devoted to the intrastate service in Tennessee, the net investment in such properties (original cost less accumulated depreciation reserve), the reproduction cost new of the properties, and reproduction cost new less existing depreciation, and the amount of capital (stocks, bonds, and surplus) represented by the properties.

The company took the position, however, that this was a revenue case and that, accordingly, it was immaterial which rate base was determined to be proper so long as the rates prescribed produced sufficient revenues and resultant earnings. Actual and proposed earnings were shown in relation to each of these several bases, but net investment was predominately used as a rate base by both the company and the interveners.

While there were no objections to the general principle of using net investment as the rate base, some questions were raised as to the inclusion therein of certain items. The most significant of these items was construction work in progress amounting to $1,681,556. The intervening cities contended that this item should be eliminated from the base due to the fact that interest during construction was accrued on the capital sums while the plant was under construction and that inclusion of construction work in progress in the rate base would provide a dual return on this item.

Due to the abnormally large amounts included in the proposed rate base for construction work in progress, the Commission is of the opinion that it would be equitable to the telephone user and the company for the purposes of this case to exclude from the rate base 50 per cent of the total or $840,778 for this account and therefore concludes that this amount should be eliminated from the rate base.

[5, 6] The Commission is of the opinion that the amounts of $44,593 covering Property Held for Future Use, and $122,320 covering Telephone Plant Acquisition Adjustment account do not represent the value of properties used and useful in rendition of intrastate service and finds that these amounts should be excluded from the rate base.

Working capital was another item questioned. With reference to this item, a witness for the intervening cities made a balance sheet determination of the amounts applicable for working capital with the result that he eliminated from the net investment amount all materials and supplies, totaling $1,309,844, and reduced the company's cash working capital item by $101,080. It is to be borne in mind that the amount of $1,309,844, represents materials and supplies actually on hand and used in the company's operations and that the cash requirement amount is composed substantially of the till money and other cash required in the company's operations. A technical and theoretical calculation as to the amounts required for these purposes is not to be preferred to the actual facts of record. The Commission sees no justification for any adjustment of these amounts

of working capital in the net investment base.

Other adjustments in the rate base insisted upon by the intervening cities stem from their contentions in regard to the Western Electric Company prices and the separation of property between interstate and intrastate. These adjustments associated with the Western Electric supply contract and with the separation procedures are inapplicable in view of the above findings on these items.

The Commission, after giving effect to the above adjustments, finds that net investment as of June 30, 1949, in the amount of $72,231,915 is a fair rate base for the purpose of this case.

Operating Expenses

An exhaustive examination was made of maintenance, traffic, commercial, accounting, and pension costs assigned to intrastate operations to determine if they were reasonable and proper, and also to ascertain whether future operating expenses could be expected to remain at the same cost level per station in service.

In addition to factual data dealing with this subject introduced by the company at the request of Commission counsel, witnesses for the cities placed in evidence a large number of exhibits and related testimony purporting to prove that future operating expenses per station in service would be at a lower level.

The respective company witnesses responsible for each different operation were subjected to a thorough cross-examination of the data placed in evidence dealing with past and current cost trends, and while certain of the operating accounts would seem to indicate that as additional stations are added, the cost per station in service has shown a downward trend, the record on which the issues of this case must be decided does not reflect any conclusive information for this Commission to determine with reasonable accuracy what the actual cost level will be in the future.

The Commission has no desire or intention to substitute its judgment for that of the company by the making of arbitrary adjustments in the future costs of operating the property of the company, as such a procedure, when not supported by evidence of record, is nothing more than "the holding for a better life to come."

The Commission does not find support in the record for an adjustment to operating expenses in this case. There is basis for concluding that the future may bring about a decrease in cost of operations on a per station basis, but this does not offer the Commission more justification for affirmative findings at this time than does the request of the company for a further increase in rates based upon the alleged present depressing effect of the high cost of construction, which contention the Commission also finds lacking in merit and which will be dealt with in more detail hereinafter.

[7] The company has admittedly employed the practice of contacting large numbers of public officials and prominent and influential citizens during the pendency of this and other rate hearings for the alleged purpose of "explaining" the company's position. The Commission is of the opinion that this practice is not a wholesome or a desirable one, and if pursued by the company, it must be

conducted at the expense of someone other than the ratepayer.

This record does not permit a separation of the amount of expense so involved, but regardless of whether same is large or small, the Commission is of the opinion that in the future the company should make and keep a record of the cost of the hours expended for such contacts and all other expense data related thereto so that same may be definitely and entirely excluded from operating expenses.

Along this line the United States Supreme Court in the case of Knoxville v. Knoxville Water Co. (1909) 212 US 1, 53 L ed 371, 375, 29 S Ct 148, said: "The rules of law applicable to operating expenses are well settled. It is held to be the duty of the courts to allow no item of expenditure which is not satisfactorily shown to be an actual and proper charge in the actual conduct of the business of supplying water; and when legal or other general expenses are claimed they must be shown to have had a proper relation to that business."

Depreciation Rates

The rates applied by the company to its depreciable property are those which have been determined by engineering studies made by engineers of the company and representatives of the Federal Communications Commission.

The rates are adjusted when necessary to meet new or changing conditions. The record will not support the making of any appropriate adjustment in the rates used during the test period and the Commission accepts as correct for the purpose of this case the depreciation rates used by the company and the amount of depreciation expense and depreciation reserve assigned to intrastate operations.

Present Earnings

The company submitted its intrastate operating results for a period extending from 1945 through June, 1949, which showed a downward trend in earnings. The record shows that this downward earning trend is due to increases in the cost of labor and materials and that, notwithstanding an emergency increase in rates made effective in September, 1948, the company's earnings for the ten months' period ending June 30, 1949, were at the annual rate of only 2.41 per cent on net investment. The continuation of the downward trend in earnings is indicated by the fact that earnings for the four months ending June 30, 1949, were, on an annual basis, at the still lower rate of 2.10 per cent. This trend, however, is highly questionable due to the short four months' period to which it pertains.

Earning statistics for the ten months ending June 30, 1949, were furnished in great detail and both the company and the intervening cities made use of the actual operating results for the 10-month period as indicating the current level of earnings. The Commission likewise adopts this 10-month period, raised to an annual basis, as being an appropriate test period for this case. The record shows that earnings which range from 2.10 per cent to 2.41 per cent on net investment (a lower rate than the company is required to pay on its bonded indebtedness) are inadequate and too low to enable the company to discharge its duties to the public, pay interest

on debt securities, and provide a reasonable return on its equity capital.

Rate of Return

[8] The question of what rate of return is required by the company is exhaustively explored in the record. Three witnesses qualified as financial experts and gave extensive testimony on this subject.

The company's witness Stubbs, testified that the average capital structure of the company for the year ending May 31, 1949, consisted of 34.28 per cent bonds and 65.72 per cent equity capital and that in his opinion this capital structure involving approximately one-third debt and two-thirds equity capital was appropriate for this company. He further testified that the interest requirements for the bonded indebtedness were at the rate of 2.81 per cent and that the requirements for the equity capital of the company was at the rate of 9 per cent. The return on this capital structure at these rates was computed to be 6.88 per cent. Other capital totaling $17,644,118, representing funds held by the American Company available for lending to Southern Bell upon call were included at the rate of 5.63 per cent. The difference between this 5.63 per cent and the 6.88 per cent was alleged to be an allowance of 1.25 per cent for a return from temporary investment of the funds held available. The composite earning rate was thus computed to be 6.84 per cent on the total capital.

Adjusting the earning requirement rate of 6.84 per cent thus computed (1) for capital not devoted to the company's telephone business, and, (2) to exclude from the computed earning requirement the interest charged to construction (and thus avoid a dual return on the construction work in progress item), the witness derived a total earning requirement for the Southern Bell Company of $36,114,738. When related to the company's net average investment for the year ended May 31, 1949, this earning requirement gave a ratio of 6.68 per cent and witness Stubbs adopted 6⅔ per cent on net average investment as representing, in his opinion, a fair rate of return.

The record does not support the inclusion of the funds held available by the American Company in the Southern Bell total capital at the rate of 5.63 per cent. Adjustment of the Stubbs' calculation to eliminate these funds would leave the earning rate proposed by witness Stubbs as 6.49 per cent on the net average investment.

Witness Robinson, for the company, testified that a capital structure of one-third debt and two-thirds equity capital would be proper. After discussing the debt and equity earning requirements separately, he expressed the opinion that earnings at 6.75 per cent on the total capital would be required for a fair return to the company. This rate of 6.75 per cent on the total capital would be a rate of 6.55 per cent on the net investment in the properties.

Witness Lasdon, for the cities, submitted an analysis of the American Company's earnings requirement as of June 30, 1949. After providing for interest requirements, he considered that the earnings for equity capital should be enough to permit payment of a $9 annual dividend on an 85 per cent pay-out basis. These earnings for equity capital would be at the rate

of 8.2 per cent. Witness Lasdon did not express an opinion on the proper capital structure for the company, but used the status as of June 30, 1949, and calculated the American Company's earnings requirement at that date as 6.05 per cent on total capital. He then applied the 6.05 per cent to Southern Bell equity capital on the theory that the funds used by the American Company to purchase Southern Bell Company stock are a composit of funds invested in American Company by both debt and equity capital investors, and after applying 2.81 per cent to Southern Bell debt capital, witness Lasdon computed the required rate of return for Southern Bell as 5.06 per cent on the total capital.

The company contends that, in the Lasdon calculation, the full equity earning rate of 8.2 per cent as proposed by him should be applied to the Southern Bell common stock capital to compute the over-all earnings requirements. A calculation similar to Lasdon's was made in a recent Alabama case involving substantially the same factual situation as exists in this case. In reviewing this calculation the Alabama supreme court [in Public Service Commission v. Southern Bell Teleph. & Teleg. Co. (1949) — Ala —, 84 PUR NS 221, 240, 42 So2d 655, 671], stated:

"We take no exception to the action of the Commission in considering the earnings requirements of the American Company to determine the earnings requirement of Southern Bell. In fact, since the American Company owns all of the stock of Southern Bell and is a public utility with its dividend requirements regulated, we assume, by the Federal Communications Commission, it seems to us that the action of the Commission is proper. But we do not think that in fixing a rate of 5.9 per cent on the stock of the Southern Bell the Commission followed a correct procedure. In our judgment this action will not stand analysis.

"The rate of 5.9 per cent on the capital stock of the company is computed by the Commission by taking the average of the allowance of $9 per share on the capital stock of the American Company with the rate of 2.76 per cent on the debt capital of the American Company. This results in reducing the rate allowed on the equity capital of Southern Bell by the rate on the debt capital of the American Company. The proof shows that the debt capital of the American Company represents bonds carried by the American Company for the associated companies which do not carry their bonds directly with the public. On the other hand, the debt capital of Southern Bell represents bonds which Southern Bell does carry directly with the public. . . .

"In principle the procedure fixes one rate of return to be received by the American Company on its investment in each of the Bell system companies without regard to the varying capital structures of the companies and the consequent risks involved. In calculating how the American Company will get this 5.9 per cent from the other companies their varying capital structures are ignored. According to the proof some of the Bell system companies have no bonded debt at all while others have bonded debt in varying proportions. Southern Bell is one of the high debt companies. The Ohio Bell has no debt. A 4.5 per cent over-

all for Southern Bell and a 5.9 per cent return for Ohio Bell cannot be justified. From an investor's standpoint the risks of the Ohio Bell are less because it has no bonded debt. . . .

"The calculation by the Commission results in the projection of some of the debt capital of the American Company into the total capital structure of Southern Bell. This seems to us to be an unwarranted assumption that part of the American Company's debt capital is employed by Southern Bell in Alabama. The proof shows that the common stock of the American Company is in reality the Bell system common stock. . . . Since the Southern Bell carries its own bonded debt with the public, the equity capital of Southern Bell is in truth equity capital and not part bonded debt."

Adjustment of the Lasdon calculation to provide for application of his 8.2 per cent equity rate to the Southern Bell equity capital would, on basis of the Southern Bell average capital structure for the year ending May 31, 1949, result in a rate of return of 6.17 per cent on total capital, which would be 5.99 per cent on net investment.

As will be seen, witnesses for the company and the cities all approached the development of a proposed rate of return by determining the amount of money needed to pay the interest on outstanding debt securities in the hands of the public, — which is an actual figure, and the amount they each considered should be earned to afford a fair return to the stockholder, — which is a judgment figure.

The different amount of total dollars each witness arrived at in computing earnings requirement is therefore solely attributable to the different earning rates proposed by each witness to be applied to the amount invested by the stockholder which is commonly referred to as equity capital.

Based on all the evidence of record and in full recognition of the fact that the determination of a fair earning rate for equity capital is a matter for judgment and is influenced by the many different factors to be considered such as the need to attract additional funds to the business, the ratio of debt to equity capital, the competition for the investor's dollar, and past and present earning trends, the Commission concludes that a 6 per cent rate of return on net investment (the rate base) which will produce funds sufficient to pay the Tennessee intrastate proportion of interest on debt securities and an earning rate for equity capital in excess of 8 per cent, is—for the purpose of this case—a fair rate of return.

Additional Gross Revenue Requirement

In reaching its decision as to the fair rate of return, the Commission was mindful of the fact that there is a constant ever-present demand for new and improved telephone service in the state of Tennessee, particularly in the rural and small town communities, which trend is expected to be a continuing one, during the next few years. If this expansion is to be made, the company must have sufficient earnings to justify and inspire the confidence of the investing public so that it will be able to acquire the necessary funds with which to make the desired expansion and improvements in telephone service.

The Commission is particularly in-

terested and concerned in this connection, believing that it is the obligation of the company to provide, and the responsibility of the Commission to see that the company provides the best, most modern possible service to the greatest possible number of Tennesseans desiring to obtain or use such service.

The Commission, coincident with the granting of increased rates for telephone service, in this order, will, by separate order, in this case, require the company to continue and greatly enlarge its efforts to meet the demand for telephonic service throughout the entire state and to report its progress at such intervals and in such manner as the Commission may prescribe.

Considering all the facts of record, including the above findings as to the fair rate of 6 per cent return on net investment and recognizing the company's existing earning level from this record to be in the range of 2.10 per cent to 2.41 per cent, the Commission finds that an increase in the company's intrastate gross revenue of $4,557,400 is required to produce for the company a return of 6 per cent on the rate base found herein, — which the Commission finds to be a fair return to the company.

The company has alleged that an increase of $6,560,160 is necessary to provide it with a fair return. Of this amount approximately $1,250,000 represents an allowance to care for the depressing effect on earnings of continued high cost construction. Much evidence was given to show that the rapid construction at high cost levels exerts a depressing effect on the earning ratio. The inclusion by the company of this $1,250,000 was to provide against this depressing effect over a period of some two or three years into the future.

It is no more appropriate to give effect in this order to an anticipated reduction in earnings because of future construction costs than to give effect to any future reduction in operating expenses which witnesses for the intervening cities anticipate. Changes, if any, to be brought about by future construction or by future increases in labor productivity or other changes in expense factors, must, in the opinion of the Commission, be cared for in the future. The Commission will not ignore the known facts and conditions in favor of a future depressed by company predictions of heavy construction cost any more than it will ignore the known facts and conditions in favor of a future brightened by intervener predictions of declines in expense levels. This Commission, therefore, makes no allowance for depressing effect which may result from future construction.

Although the rate increase provided for herein is approximately $2,000,000 short of the increase sought by the company, it is the judgment of the Commission that this increase in rates is sufficient and adequate in the present circumstances under the facts of record.

Penn-Harris Hotel Company et al.

v.

Pennsylvania Public Utility Commission

— Pa Super Ct —, 71 A2d 853
March 14, 1950

APPEAL *from order dismissing complaint by hotel association and hotel against telephone rates; order affirmed. For Commission decision, see (1949) 78 PUR NS 120.*

Parties, § 4 — Complaint against telephone company — Hotel association.

1. A hotel association is not a party having an interest, within the meaning of § 1001 of the Public Utility Law, in a proceeding on behalf of hotels against a telephone company for violations of the Utility Law and tariff regulations applicable to telephone companies, p. 79.

Parties, § 4 — Complaint against telephone company — Hotels.

2. A hotel which subscribes to and uses a telephone company's semipublic branch exchange service is qualified to complain against the company's failure to include in its filed tariff the scale of commissions paid by it to hotels for hotel services rendered in connection with such service, p. 79.

Rates, § 568 — Commission for hotel collection — Status as telephone rate.

3. Contracts between a telephone company and hotels by which a commission is to be paid the hotel on toll charges collected for the telephone company are not rates within the meaning of that term as defined in the Public Utility Law, but are merely part of the telephone company's operating expenses, p. 80.

Commissions, § 44 — Extent of jurisdiction — Managerial functions.

4. The Commission's jurisdiction to regulate public utility companies does not extend to the company's purely managerial functions, p. 81.

APPEARANCES: Ralph E. Evans, Harry H. Frank, McNees, Wallace & Nurick, Harrisburg, for appellants; Arthur J. Diskin, Assistant Counsel, William J. Grove, Assistant Counsel, Charles E. Thomas, Counsel, Harrisburg, William H. Lamb, John B. King, E. Everett Mather, Jr., Philadelphia, for intervening appellee.

Before Rhodes, PJ., and Hirt, Reno, Dithrich, Ross, Arnold, and Fine, JJ.

RENO, J.: The Public Utility Commission ([1949] 78 PUR NS 120) dismissed the joint complaint of Pennsylvania Hotels Association (hereafter called the Association) and Penn-

Harris Hotel Company (called Penn-Harris) against The Bell Telephone Company of Pennsylvania (called Bell), and the complainants appealed separately. They charged in effect that Bell violated the Public Utility Law of May 28, 1937, PL 1053, as amended, 66 PS § 1101 et seq., by omitting from its filed tariffs the scale of commissions paid by Bell to the hotels for services rendered by the hotels in connection with the semipublic branch exchanged service to which they subscribed.

[1, 2] The Association comprises 205 Pennsylvania hotels; 125 of them subscribe to the branch exchange service; and 56 of these are represented by the Association and mentioned in the complaint. The Association itself is not a subscriber to the type of service here involved. The Law, *supra*, § 1001, 66 PS § 1391, provides: "The Commission, or any person, corporation, or municipal corporation *having an interest in the subject matter*, . . . may complain in writing . . . ." (Italics added.) Obviously, the Association does not have a direct, immediate, pecuniary, and substantial interest in the subject of the controversy, and the Commission correctly held that it was not a proper party. Lansdowne Borough Board of Adjustment (1934) 313 Pa 523, 170 Atl 867; Pennsylvania Commercial Drivers Conference v. Pennsylvania Milk Control Commission (1948) 360 Pa 477, 62 A2d 9; Seitz Liquor License Case (Re Seitz) (1945) 157 Pa Super Ct 553, 43 A2d 547.

Penn-Harris *is* qualified to litigate the questions herein raised. It utilizes Bell's semipublic branch exchange service. By it Penn-Harris' guests, and those of other hotels which use the service, secure incoming and outgoing telephone service by means of extension stations connected with a central switchboard located on the hotel premises and operated by hotel employees. The equipment is owned by Bell and leased to the hotel at a monthly rental prescribed in the tariffs filed with the Commission or its predecessor. The reasonableness of that rent is not here questioned. The tariffs provide for a contract under which the hotel is designated as Bell's agent for the collection of the toll charges incurred by the guests. For the service rendered as collecting agent Bell pays a stipulated commission which, although changed from time to time, is uniform, and is paid by deducting the amount earned from the rent and the total of toll charges shown on the bill submitted monthly to the hotel. Since 1924, without objection by anyone before the present complaint was filed in 1946, Bell's tariffs did not state the scale of the commissions and the contracts for them were not filed with the Commission.

The contracts also provided that the hotel should "collect for the company its regularly established tolls." Violation of this provision precipitated this controversy. Penn-Harris and other hotels began to impose surcharges upon its guests, i. e., they charged and collected from their guests a sum of money over and above the legal rate established by Bell, and retained the surcharge for themselves. Hence the guest paid more than the rate established by Bell's tariffs, and the hotels, which obviously are not public utilities, collected compensation for the use of telephone facilities. In

1942 the Commission informed Bell that this constituted a violation of its tariffs and directed it to institute necessary measures to have its tariffs strictly followed. Copies of this letter were sent to Penn-Harris and other hotels. No further action was taken pending completion of certain proceedings before the Federal Communications Commission. In 1944 that Commission ordered all telephone companies to file new tariffs which expressly stated that surcharges by hotels in excess of the duly published interstate tariff rates were prohibited, and its order was affirmed by the United States Supreme Court. Ambassador, Inc. v. United States (1945) 325 US 317, 89 L ed 1637, 58 PUR NS 193, 65 S Ct 1151. Subsequently Bell notified Penn-Harris and other hotels that unless they ceased making surcharges on intrastate toll messages their contracts would be canceled. Penn-Harris and other hotels continued the surcharges, and their contracts were canceled. Consequently, no contract for commissions has been in force between Bell and Penn-Harris since the cancellation, and yet Penn-Harris has withheld $7,148 as alleged commissions. After Bell Teleph. Co. v. Philadelphia Warwick Co. (1947) 355 Pa 637, 68 PUR NS 219, 50 A2d 684, was instituted to collect the commissions withheld by that hotel, the instant complaint was filed.

Coincident with the cancellations, Bell offered a new contract under which the hotel was required, inter alia, to agree that it would not charge its patrons any sums for telephone service in addition to those set forth in Bell's tariffs. On its part, Bell agreed to pay to the hotel for its services for collecting the toll charges a scale of commissions which differed from that previously paid, and which was not set forth in Bell's tariff filed with the Commission.[1] Appellants now contend that Bell's failure to file as a part of its tariffs the contract containing the rate of the commissions is a violation of the Law, *supra*, § 302, 66 PS § 1142, which requires utilities to file tariffs showing the rates established by them, and of § 308(a), 66 PS § 1148, which requires utilities to notify the Commission of any change of rates.

[3] The sole issue, as stated by appellants, is "whether or not the rules and regulations including the commissions allowed hotels as subscribers of semipublic branch service are 'rates' within the meaning of that term as defined in the Public Utility Law, § 2 (19), 66 PS § 1102, and as a 'rate' should be plainly specified in respondent's tariff."

Section 2(19), *supra*, provides: "'Rate' means every individual, or

[1] The new scale of commissions, as reported in the order of the Commission, is: "Respondent agreed to pay to the hotel a commission of 60 per cent of the amounts, excluding taxes, paid to respondent by the hotel for local messages; to pay to the hotel a commission of 15 per cent of the amounts, excluding taxes, paid for all toll messages sent-paid or received-collect by others than the hotel; and, to pay to the hotel a commission of 10 per cent on amounts, excluding taxes, paid to the respondent by the hotel for telegrams, cablegrams, and radiograms sent-paid or received-collect." (78 PUR NS 120, 124.)

Under the old scale Bell paid "60 per cent of the gross receipts for local messages and a commission of 20 per cent, not to exceed 25 cents on any one message, of the gross receipts from toll messages, sent-paid and received-collect at stations established hereunder."

joint fare, toll, charge, rental, or other *compensation* whatsoever *of any public utility,* or contract carrier by motor vehicle, *made,* demanded, *or received for any service within this act, offered, rendered, or furnished by such public utility,* or contract carrier by motor vehicle, whether in currency, legal tender, or evidence thereof, in kind, in services or in any other medium or manner whatsoever, and whether *received* directly or indirectly, and any rules, regulations, practices, classifications, or contracts affecting any such compensation, charge, fare, toll, or rental." (Italics added.)

This broad and comprehensive definition embraces substantially any and all compensation *received* by a public utility for services rendered to a consumer. It emphasizes and applies only to compensation received by the utility in return for *services rendered by it.* Clearly the definition does not cover contracts, such as here involved, which relate to *services rendered to the utility* and for which the utility expends money. Instead of deducting the commissions from the hotels' monthly bills, Bell might accomplish the same result by a separate remittance to the hotel, as is actually done in the case of pay station phones where Bell collects cash deposits and remits a percentage of the receipts to the owner of the premises on which the station is located.[2] The commissions are not, within the statutory meaning, a "rate," but are merely part of Bell's operating expenses. "The rate is the consideration that the company receives for the service." Swarthmore v. Public Service Commission, 277 Pa 472, 483, PUR1923E 367, 375, 121 Atl 488, 492.

[4] Adoption of the construction urged by appellants would involve the Commission in the internal management of utilities. It would require the Commission to pass judgment upon the necessity for the service contracted for and the reasonableness of the compensation paid by the utility. This is a purely managerial function and, under all our cases, is not a power statutorily committed to the Commission. Northern Pennsylvania Power Co. v. Public Utility Commission (1939) 333 Pa 265, 27 PUR NS 233, 5 A2d 133. "It [the Commission] does not manage, but regulates. The company spends its money as it sees fit. It can adopt any plan it wishes, and the Commission cannot *directly* stop it." Swarthmore v. Public Service Commission, *supra,* 277 Pa at p. 483, PUR 1923E at p. 375. (Italics added.) Of course, "The Commission may consider its subject matter [e. g., the commissions paid to hotels] as a rate factor in a rate base" case. Id. 277 Pa at p. 483, PUR1923E at p. 375.

The decisions of utility Commissions of other states and the opinions of their appellate courts, relied upon by appellants, have been studiously examined, but they relate to facts not here present, and they are not persuasive.

Order affirmed.

[2] At the oral argument it was stated that some utilities, in order to serve the convenience of their patrons, appoint banks or other reliable concerns as collecting agents and pay them for the service thereby rendered. If such agents are also patrons of the utility, should their compensation be considered a "rate" and brought within the rate-regulating power of the Commission?

Re Farmers' Union Telephone Company

Docket No. 4649
March 29, 1950

INVESTIGATION *on Commission motion of reasonableness of proposed telephone rate increase; proposed increase disapproved and new rates prescribed.*

Revenues, § 5 — Telephone company — Commissions — Rentals.

1. A telephone company's income items such as Western Union commissions, advertising commissions, and rentals from buildings should be treated as operating revenue rather than nonoperating income and included in miscellaneous revenues, particularly where related expenses are included in adjusted operating expenses, p. 85.

Depreciation, § 76 — Telephone company — Plant items — Changes.

2. A telephone company's depreciation expense was calculated by developing a schedule of depreciation rates for different classes of telephone plant believed to be adequate to maintain the integrity of the investment as presently constituted, in preference to the company's depreciation expense calculation which applied a schedule of depreciation rates developed several years ago, where the company's rates applied to some classes of plant would result in full recovery of investment prior to expiration of useful life and where the company had recently converted to dial equipment, thereby changing the characteristics of major items of plant, p. 85.

Expenses, § 35 — Extraordinary retirement — Conversion to dial telephone equipment.

3. Expense resulting from the retirement of telephone switchboard equipment upon conversion to dial equipment is not properly chargeable to operating expenses for rate-making purposes, but should be charged to a depreciation reserve account which is adequate to absorb charge-offs of all property retired in connection with the dial conversion program, p. 86.

Expenses, § 92 — Rate case expenses — Amortization period.

4. Rate case expenses should be amortized over a 5-year period for rate-making purposes, p. 86.

Expenses, § 82 — Officers' expenses — Return of advancement.

5. Traveling expenses advanced to an officer of a telephone company and subsequently returned by him to the company should be deducted from the company's operating expenses for rate-making purposes, p. 86.

Expenses, § 46 — Charitable contributions.

6. Contributions to charity should be excluded from a telephone company's operating expenses for rate-making purposes, p. 86.

Revenues, § 2 — Future estimates — Effect of new customers.

7. A telephone company's estimate for subscribers' station revenues was

considered too low because adequate recognition had not been given to revenues to be derived from new customers to be added to the company's lines, p. 86.

Return, § 111 — Telephone company.

8. A return of 9.34 per cent was considered excessive for a telephone company, but a return of 6 per cent was considered fair and reasonable, p. 88.

Return, § 69 — Operation in two states — Return as a whole.

9. A return deficiency of a telephone company operating in two states should not be borne solely by the customers in one of the states, and in the absence of a separation study, that percentage of customers located in the state conducting a rate investigation should bear only a like percentage of the rate increase, p. 88.

APPEARANCES: Walter D. Van Riper, for the company; Peter Friedman, for Sussex Chamber of Commerce.

By the COMMISSION: Farmers' Union Telephone Company (hereinafter called "company"), filed with the Board increased rates to become effective August 1, 1949.

Pursuant to authority vested in it by statute, the Board acting on its own motion instituted a proceeding to determine whether the proposed rates would be just and reasonable and, pending such determination, ordered their suspension. Hearings were held in Newark on September 14, 1949, December 14, 1949, and January 25, 1950. Appearances entered in this cause are shown above. When it became apparent that the proceedings could not be completed within the period that the statute authorizes the Board to suspend rates, the time for completion of the proceeding was extended by stipulation of the parties to April 1, 1950. The company furnishes service in New York as well as in New Jersey. The company's proposal herein applies, however, to its New Jersey customers only. The company proposes to file an application to increase rates to its New York customers in New York state.

The record indicates that the company gave notice to its New Jersey customers of the proposed change in rates by newspaper advertisement and by bill inserts mailed with June 1949 bills.

The company's main office and principal exchange is located in Sussex, New Jersey. The company has a satellite exchange at Unionville, New York. The company's service area covers approximately 150 square miles of the extreme northwesterly portion of New Jersey and extends into adjoining territory in the state of New York. As at December 31, 1949, the company had 1,354 telephones connected to its system of which 1,118 were in New Jersey and 236 in New York. Conversion of facilities from manual to dial operation was completed in February, 1949.

The company began business in 1902. Its capitalization consists of 327 shares of $25 par value common stock outstanding in the total amount of $8,175. With exception of $36,000 in notes, borrowed in connection

with the dial conversion program, additions to Fixed Capital have been financed from retained earnings and reinvestment in the property of the reserve for depreciation. No dividends have been paid on the stock and until recent years the officers received little or no salary. The salaries presently being paid to the officers are not unreasonable.

There is no toll charge within the company's service area which is operated as a single local exchange area. Interconnections with adjacent telephone companies are available for calls to Andover, Branchville, Franklin Borough, Lake Mohawk, and Newton at specified rates. Toll calls to other points in New Jersey are charged for at New Jersey Bell Telephone Company's rates.

The principal changes proposed in the rates are summarized below:

	Present Rates	Proposed Rates
Business Phones, per Month		
Individual Line	$4.25	$6.50
5-Party Line	3.50	5.25
10-Party Line	3.00	4.50
Residential Phones, per Month		
Individual Line	3.25	5.00
5-Party Line	2.50	3.75
10-Party Line	2.00	3.00
Other Charges, per Month		
Semipublic Telephone, Monthly Guaranty	4.25	6.50
Extension Bells	.50	1.00
Extension Stations	.75	1.25
Exchange Line Mileage Charge:		
Individual Line per Quarter Mile	.75	1.12
5-Party Line per Quarter Mile	.19	.28
Service Connection Charges		
New or Additional Service and Facilities	3.50	6.00
Service and Facilities in Place	1.50	3.50

The proposed rates, identified as Exhibit P–5, are estimated to produce additional annual revenues of $20,400 on the basis of the number of customers served in July 1949.

In a statement accompanying the filing, the company asserts that it is necessary to increase rates because of increases in the cost of labor and materials, increased costs of operation associated with the dialization of its entire system, and in order to enable it to earn a fair return upon the value of its property.

The company submitted various exhibits purporting to reflect its revenues, expenses, and investment in plant and facilities. Counsel for objectors questioned the accuracy of the company's aforementioned exhibits and, more particularly, the separation of expenditures between plant and expense accounts as well as the accounting for depreciation. They further asserted that the company had not fully conformed its accounting practice to the provisions of the Uniform System of Accounts for Telephone Companies as required by this Board. To satisfy itself as to this matter, the Board instructed its staff to examine the company's books and records and to make such further studies as would be required to clarify this matter. The studies made by the staff, in the opinion of the Board, call for adjustment of some items in the statements as submitted by the company. These adjustments in the reasons therefor will be hereinafter detailed.

The following table shows in comparative form the company's Income Statement for 1949, the estimated results for 1950, as well as revisions proposed by the Board:

	1949		1950	
	Exhibit P6A	Adjusted By Board	Exhibit P6A	Adjusted By Board
Operating Revenues:				
Subscribers Station Revenue	$34,118	$34,118	$35,000	$36,000
Message Tolls	28,568	28,568	25,000	27,568
Miscellaneous Collections	4,751	5,599	6,000	6,000
Uncollectibles	(445)	(445)	(450)	(450)
Total Operating Revenues	$66,992	$67,840	$65,550	$69,118
Operating Expenses:				
Repairs to Outside Plant	$25,211	$17,793	$21,000	$16,400
Repairs to Buildings and Grounds	279	279	525	525
Depreciation	8,071	7,030	11,254	8,031
Extraordinary Retirements	3,926	.....	1,500	.....
Operators Wages	10,708	10,708	16,268	16,268
Commercial Expense	3,440)	3,440	4,524)	4,524
Rate Case Expense	3,500)		3,000)	1,300
General Office Salaries and Expenses	10,340	10,140	11,940	11,940
Other Operating Expenses	3,464	3,279	7,250	4,670
Total Operating Expenses	$68,939	$53,369	$77,261	$63,658
Taxes	5,560	6,920	6,428	6,428
Operating Revenue Deductions	$74,499	$60,289	$83,689	$70,086
Operating Income	($7,507)	$7,551	($18,139)	($968)

An explanation of adjustments made to the company statements in the preceding table follows:

Operating Revenues for 1949

[1] The company has treated as Nonoperating Income such items of income as Western Union commissions, advertising commissions, and rentals from buildings, totaling $848. The Board is of the opinion that this amount should be treated as operating revenue and included in Miscellaneous Revenues, particularly since related expenses are included in adjusted operating expenses in the above table, and has accordingly adjusted operating revenues.

Operating Expenses for 1949

(*a*) *Repairs to Outside Plant.* In developing its expense charge for Repairs to Outside Plant, the company first assembles the total cost of operating its service and line trucks, total wages and salaries of servicemen and linemen, and the cost of materials and supplies used. The company then allocates these costs, 75 per cent to this expense item and 25 per cent to plant account. This allocation, the company claims, is the result of a study it made on the basis of its experience covering the period from 1937 to 1942.

From the investigation conducted by the Board's staff, it appears that on the basis of work performed during 1949, approximately 65 per cent rather than 75 per cent of the cost of operating the trucks and labor costs for servicemen and linemen is allocable to operating expenses. As to the materials and supplies, the study indicated that the allocation should be approximately 40 per cent to operating expense and 60 per cent to plant account. We have adjusted the Income Statement to reflect the foregoing.

[2] (*b*) *Depreciation Expense.* The charge to expense for depreciation expense is calculated by the company by applying a schedule of de-

preciation rates developed by it several years ago. By reason of the fact that the depreciation rates applied by the company to some classes of plant would result in full recovery of investment prior to expiration of useful life, and since the company has converted to dial recently, thereby changing the characteristics of major items of plant, the Board's staff, after investigation, developed a schedule of depreciation rates for the different classes of telephone plant which it believes will be adequate to maintain the integrity of the investment as now constituted. We have adjusted the depreciation expense on this basis.

[3] (*c*) *Extraordinary Retirements.* The company included in operating expenses for 1949 an amount for extraordinary retirements. This represents the retirement of switchboard equipment resulting from conversion to dial. The Board concludes that this item is not properly chargeable to operating expenses but should be charged to the Depreciation Reserve Account, which appears to be adequate to absorb charge-offs of all property retired in connection with the dial conversion program, and has adjusted the Income Statement accordingly.

[4] (*d*) *Rate Case Expenses.* The company has included in operating expenses, in 1949, rate case expenses amounting to $3,500. This, however, is in the nature of an unusual and nonrecurring expense, and the Board is of the opinion that for purposes of establishing the reasonableness of rate levels for this utility, this expense item should be amortized over a 5-year period. The Income Statement has been adjusted to reflect this procedure.

[5] (*e*) *General Office Salaries and Expenses.* This item of operating expense has been adjusted by deducting $200 that was originally advanced to one of the officers for a business trip and subsequently returned by him to the company. This refund of advanced traveling expenses was, in our opinion, incorrectly treated by the company as nonoperating income and in the adjusted Income Statement is, therefore, credited to this expense account.

[6] (*f*) *Other Operating Expenses.* The Board has disallowed, as an operating expense, contributions to charity included in this expense item since it is of the opinion that such contributions, although laudable, are not chargeable to customers. We have adjusted the Income Statement accordingly.

(*g*) *Taxes.* As the adjustments referred to above result in a taxable income instead of a loss as indicated by the company, taxes have been adjusted to reflect income taxes related to such income.

Estimated Revenues for 1950

[7] (a) In the opinion of the Board, the company's estimate for Subscribers Stations Revenues is too low because adequate recognition has not been given to revenues to be derived from new customers to be added to the company's lines. The company's estimate has been increased by $1,000 for this reason.

(b) The company has estimated that revenues from toll service would decrease by $3,568 from the 1949 level. Considering the prospective in-

crease in subscribers and the relationship of toll revenues for recent months with such revenues for the corresponding period of 1949, the Board is of the opinion that the company's estimate in this respect is unduly pessimistic and has accordingly adopted, for 1950, an estimate of revenues from toll service only $1,000 below that experienced in 1949. Adjustments to reflect the foregoing have been made in the adjusted income statement.

Estimated Operating Expenses for 1950

(*a*) *Repairs to Outside Plant.* From the investigation made by the Board's staff, it appears that the nature of work to be performed by the company's outside plant department will closely follow the 1949 pattern and the expenses in this category have been adjusted on a basis which corresponds to that hereinabove set forth in the explanation of the adjustment of this expense item for the year 1949.

(*b*) *Depreciation Expense.* The same rates of depreciation as developed for 1949 were applied to the estimated average plant investment for the year 1950 and the company's calculation for this expense has been adjusted.

(*c*) *Extraordinary Retirements.* There appears to be no support for the inclusion of this item in operating expenses. The explanation above of a comparable item claimed by the company in 1949 expenses is also applicable here, and corresponding adjustment to the income statement has been made.

(*d*) *Operators' Wages.* No adjustment of this item is made by the Board. While the company's estimate is substantially higher than the comparable item for 1949 it purports to reflect the annualized effect of increases in operator payroll expense expected to result from the new Federal minimum wage law which went into effect recently.

(*e*) *Commercial Expenses.* The increase in this item in 1950 is for additional personnel to permit the office force to perform assigned duties adequately. No adjustment has been made to this item.

(*f*) *Rate Case Expenses.* The company proposes to file for increased rates to its New York customers. We have included in operating expenses in 1950 one-fifth of its estimated cost in this respect as in the case of a similar expense item in 1949.

(*g*) *General Office Salaries and Expenses.* The increase in this item is for an additional employee to understudy and assist Mr. Armstrong in his duties in the operation of and servicing of the dial equipment. Mr. Armstrong is at the present time the only employee who is familiar with the operation of the new dial equipment. No adjustment has been made to this estimate.

(*h*) *Other Operating Expenses.* This item includes three categories of expenses, namely: janitorial services, directory printing costs, and insurance premiums. From an examination of the company's records and our staff's investigation, it appears that $1,000 would constitute a reasonable allowance for janitorial service. It further appears that $1,100 would be a reasonable allowance for printing the directory, giving effect to the expected increase in the number of customers. From an analysis of the company's insurance coverage it is estimated that $2,570 will constitute a reasonable al-

lowance for insurance premiums allocable to 1950. The company's estimate of $7,250 for the aforementioned three categories of expenses is accordingly adjusted to $4,670.

Rate Base and Rate of Return

[8] The company has made no specific claim as to the amount or elements to be included in rate base. The Board for the purpose of this case has adopted a rate base developed in the following manner:

We have used as a starting point the fixed capital account as at December 31, 1949. To this was added one-half of the estimated plant additions for 1950. This was then adjusted to reflect reallocation between investment and operating expenses of certain expenditures in 1949 and 1950 as set forth herein under our discussion of operating expenses. We then deducted the estimated Reserve for Depreciation as at June 30, 1950, after adjustment resulting from application of rates of depreciation for the years 1949 and 1950 developed by our staff. We then added an allowance for materials and supplies and cash working capital. The rate base so calculated at June 30, 1950, becomes $168,070.

The estimated Income Statement as adjusted by the Board shows that, under present rates, the company would experience an operating loss during 1950. The company, therefore, is entitled to relief in the form of increased rates. The operating income under the rates proposed by the company is estimated at $15,704, which corresponds to a rate of return of 9.34 per cent on the rate base herein adopted. This rate of return is considered to be excessive.

As in the case of rate base, the company made no specific claim as to the level of a fair rate of return and offered no proofs in this regard. Under the circumstances here, the Board, on the basis of its general information as to the cost of obtaining capital and after giving due consideration to the nature of territory served and the type and character of service rendered, has adopted 6 per cent as a fair and reasonable rate of return.

Conclusions

It appears that the company will sustain an operating loss under present rates and that the rate of return under proposed rates would be in excess of that found to be reasonable. Therefore, the company is entitled to an increase in rates but not as large an increase as that proposed by the company. The following schedule indicates the amount of additional revenue required to yield a rate of return of 6 per cent on the rate base adopted herein:

1. Amount of return equivalent to 6% of adopted rate base	$10,084
2. Estimated Operating Income under present rates for the year 1950	($968)
3. Indicated return deficiency	$11,052
4. Amount of additional revenue required to recover return deficiency, adjusted to give effect to related additional franchise and federal income taxes	$12,326

[9] As the company serves both New Jersey and New York customers, it would be unreasonable to require only the New Jersey customers to stand the full effect of the return deficiency. In the absence of a separation study and inasmuch as only 83 per cent of the customers are located in New Jersey and a like percentage of the Local Exchange revenues are

realized from those customers, it seems reasonable that the amount of the increased revenue that should be borne by the New Jersey customers would be 83 per cent of $12,326 or $10,231.

On the basis of the foregoing considerations, the Board finds and determines:

1. That the existing schedule of rates has become unjust and unreasonable, in that it does not provide the company an opportunity to earn a fair return.

2. That the rates proposed by the company are unjust and unreasonable in that they would yield an excessive return and that such rates are, therefore, *hereby disapproved.*

3. That a schedule of rates which will increase annual operating revenues from New Jersey customers on the basis of 1950 estimated business by $10,231 is just and reasonable.

4. That the company shall submit for the consideration of the Board within fifteen days of the date of this decision, a revised schedule of rates so designed as to produce an increase in annual operating revenues of not more than $10,231 on the basis of 1950 estimated business, and to become effective with bills rendered in the ordinary course of business on and after May 1, 1950.

FEDERAL POWER COMMISSION

Re Panhandle Eastern Pipe Line Company

Docket No. G-1322
March 9, 1950

APPLICATION *for authority to construct and operate meter and regulating station and to establish physical connection, or for ruling that Commission lacks jurisdiction; jurisdiction asserted and certificate granted.*

Gas, § 2 — Jurisdiction of Federal Power Commission — Facilities to transport interstate gas.

Meter and regulating station facilities owned by a pipeline company subject to regulation by the Federal Power Commission under the Natural Gas Act are facilities subject to the jurisdiction of the Commission if they are used in the transportation of natural gas in interstate commerce.

By the COMMISSION: On February 3, 1950, Panhandle Eastern Pipe Line Company (applicant), filed an application for a certificate of public convenience and necessity pursuant to § 7 of the Natural Gas Act, 15 USCA § 717f, authorizing the construction and operation near the city of Albion,

Michigan, of a meter and regulation station and the establishment of a physical connection between its facilities and a proposed new 8-inch pipeline to be constructed by Corning Glass Works (Corning), extending from the point of physical connection of facilities to a proposed new plant to be constructed by Corning at Albion, Michigan.

Pursuant to due notice, a public hearing was held in Washington, D.C., on March 1, 1950, respecting the matters involved and the issues presented in this proceeding. The Michigan Public Service Commission filed a notice of intervention and participated in the hearing. Interveners, Indiana Gas & Water Company, Inc., Central Indiana Gas Company, and Kokomo Gas & Fuel Company participated in the hearing and the latter company presented a witness in its behalf. Michigan Consolidated Gas Company was permitted to intervene but did not appear at the hearing.

Applicant proposes through the above-described facilities to deliver to Corning quantities of natural gas not exceeding 6,000 thousand cubic feet per day on an interruptible basis for use by Corning for fuel in the operation of a proposed new television bulb plant to be located in Albion, Michigan. Corning estimates that it will initially take 2,000 thousand cubic feet of natural gas per day which will be increased to approximately 4,000 thousand cubic feet per day in 1951.

The evidence shows that applicant's system capacity has exceeded the heretofore estimated sustained sales capacity of 500,000 thousand cubic feet per day. During the month of January, 1950, the main line sales on applicant's pipeline system east of its Liberal Compressor Station totaled 15,920,341 thousand cubic feet or, on an average daily basis, 513,559 thousand cubic feet. The record further shows that during the period November 1, 1949, until the time of the hearing, applicant has invoked only thirty-two hours of curtailment under applicable service rules and regulations. On January 4, 1950, applicant ordered step 2 curtailment in effect which provides for a 90 per cent curtailment of normal daily interruptible requirements of its customers. This curtailment continued for twenty-four hours when, on January 5, 1950, step 1 curtailment was ordered in effect which provides for a 50 per cent curtailment of such interruptible requirements. This curtailment remained in effect for eight hours. The Commission takes official notice of a 75 per cent interruptible curtailment ordered by Panhandle on March 2, 1950, subsequent to the close of the hearing which continued in effect for a period of thirty-six hours.

The record shows that from November 1, 1949, to February 14, 1950, applicant delivered 2,717,148 thousand cubic feet to Michigan Gas Storage Company in excess of the contract schedule between that company and applicant and, also, 719,297 thousand cubic feet to the Wallace Power Plant of Central Illinois Light Company on a dump basis. The average daily excess gas for this period is 32,420 thousand cubic feet per day. It is estimated that if normal temperatures had prevailed during this period of time, the average daily excess gas would have been reduced to

15,680 thousand cubic feet per day. It appears that applicant is able to supply Corning with natural gas on an interruptible basis as proposed.

Intervener, Kokomo Gas & Fuel Company (Kokomo Gas) presented evidence to show that it was approached by representatives of Corning in regard to the location of Corning's proposed plant within Kokomo Gas' franchise territory; and that as required by the provisions of applicant's rate schedule, Kokomo Gas asked applicant for a commitment for 3,000 thousand cubic feet of natural gas on an interruptible basis for Corning, which was refused by applicant. In this connection applicant's Rd–2 rate schedule, presently on file with the Commission, provides that applicant will undertake to provide such interruptible service if, in its judgment, it has a sufficient supply of gas and adequate facilities. As the record warrants the conclusion that applicant has a sufficient supply of gas and adequate facilities to provide this interruptible service it appears that there may have been a technical discrimination on the part of applicant in violation of its filed rate schedules. However, the evidence shows that any such discrimination had no bearing on the selection by Corning of Albion as the proposed location for its new plant. Contrariwise, the record shows that the selection by Corning of Albion for such plant was based on other important factors.

No other existing customers of Panhandle presented evidence to show that they were equitably entitled to the gas proposed to be sold to Corning or that they were in need thereof for service to other customers.

The estimated cost of the proposed facilities is $6,000, which will be paid out of funds on hand.

Applicant asks the Commission to disclaim jurisdiction of the matters set forth in its application, or, in the alternative to issue a certificate authorizing the construction and operation of the proposed facilities. The record is clear that the proposed facilities are to be constructed and operated as integral parts of its interstate transmission pipeline system which is subject to the jurisdiction of this Commission. The Commission indicated clearly in its opinion of March 14, 1946, in Detroit v. Panhandle Eastern Pipe Line Co. Docket Nos. G–661 and G–688, 5 FPC 43, 63 PUR NS 213, that the Natural Gas Act does confer on the Commission jurisdiction over a company found to be a natural gas company within the meaning of the Natural Gas Act, and over the facilities used by such company either in transporting natural gas in interstate commerce or in the sale of such gas for resale. Clearly, where, as here, the proposed facilities are to be used in the transportation of natural gas in interstate commerce, such facilities are subject to the jurisdiction of this Commission.

The Commission finds:

(1) Applicant, a Delaware corporation having its principal place of business at Kansas City, Missouri, owns and operates, among other facilities, a natural gas transmission pipeline system located in the states of Texas, Oklahoma, Kansas, Missouri, Illinois, Indiana, Ohio, and Michigan and by such operations applicant is engaged in the transportation and sale of natural gas in interstate commerce

for resale for ultimate public consumption, subject to the jurisdiction of the Commission, and is, therefore, a "natural-gas company" within the meaning of the Natural Gas Act, as heretofore found by the Commission in its order of October 17, 1945, in Docket No. G–254, 4 FPC 1081.

(2) The facilities hereinbefore described are proposed to be used in the transportation of natural gas in interstate commerce, subject to the jurisdiction of the Commission, as integral parts of applicant's existing pipeline system, and the construction and operation thereof by applicant are subject to the requirements of subsections (c) and (e) of § 7 of the Natural Gas Act, as amended.

(3) Applicant is able and willing properly to do the acts and to perform the service proposed and to conform to the provisions of the Natural Gas Act, as amended, and the requirements, rules, and regulations of the Commission thereunder.

(4) Applicant having requested the omission of the intermediate decision procedure and all the parties participating in the hearing having concurred in such motion pursuant to the requirements of §§ 1.30(c) and (d) of the Commission's Rules of Practice and Procedure [18 CFR 1.30(c) and (d)], sufficient cause exists for the Commission forthwith to render its final decision in the instant proceeding.

(5) The proposed construction and operation of the facilities by applicant are required by the present and future public convenience and necessity, and a certificate therefor should be issued as hereinafter ordered and conditioned.

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Edward Lentz

v.

Halifax Borough Water Department

Complaint Docket No. 14853
May 1, 1950

COMPLAINT *seeking to require municipal water plant to serve premises outside corporate limits; complaint sustained and service ordered.*

Municipal plants, § 11 — Jurisdiction of Commission — Extraterritorial service.

1. The Commission has jurisdiction over municipal plant service extensions where the municipality has elected to provide water service to consumers beyond its corporate limits, p. 94.

Service, § 118 — Municipal plants — Duty to serve.

2. The public utility law and a determination of the Commission governing

the service obligations of a municipal plant furnishing urban and extraterritorial service take precedence over an ordinance prohibiting the tapping of a water main between the municipality's reservoir within the corporate limits and the source of supply outside of the corporate limits, p. 95.

Discrimination, § 217 — Municipal plants — Extraterritorial service.

3. A municipal water plant, having elected to furnish service to customers beyond its corporate limits, cannot unduly discriminate by furnishing service to some and refusing it to others in the same class and similarly situated, p. 95.

By the COMMISSION: By this proceeding, complainant, Edward Lentz, seeks to require respondent, borough of Halifax, to make its water service available to him at his property in the community of Matamoras, Halifax township, Dauphin county. Borough of Halifax owns and operates its own waterworks. A pipeline of respondent, about 4 miles long, carrying water to borough of Halifax from its source of supply in Halifax township on Peters mountain, passes complainant's property, and the only construction involved to make its water service available is the installation of a service connection from the pipeline to complainant's property.

In its answer to the complaint, respondent admits that it has refused water service to complainant. Respondent averred that water service to complainant was denied by reason of its existing ordinance prohibiting the making of connections to said pipeline after the date of the ordinance (July 1, 1947), for the purpose of conserving this water for the residents of borough of Halifax. Respondent prays that the complaint be dismissed.

It is to be noted that it is water from Halifax township, in which complainant resides, that the borough of Halifax would thus conserve for the residents of borough of Halifax.

In 1947, complainant constructed a dwelling in Matamoras, about 2 miles south of borough of Halifax, and requested water service from respondent. Respondent refused and gave as its reason the prior enactment of an ordinance in July, 1947, prohibiting tapping of the main at any point in Halifax township between the borough reservoir at borough of Halifax and the source of supply on Peters mountain, for the furnishing of water to any person, firm, partnership, or corporation.

Thereupon complainant drilled a well on his property and obtained water from that source until August, 1949, when a bacteriological analysis was made of the water and it was found unsafe for human consumption. Subsequently, two other tests were made, with the same results, and complainant now has no potable water on his premises.

Respondent has an auxiliary source of supply which is a drilled well located about one-half mile east of the borough. This well was drilled to augment the supply from the springs on Peters mountain during periods of drought. Water flows by gravity from these springs to the reservoir at Halifax. The supply from this well is pumped into said reservoir. The well water is harder than that from

the springs. During the last five months of 1949, the well was pumped for a total of 885 hours, inasmuch as the flow from the springs during that period was not sufficient to meet the demand for water throughout the system.

There are a total of 299 consumers in the water system, of which 74 are located outside the borough limits. Of these 74 consumers, 43 are furnished service from the pipeline which passes through Matamoras. All 74 are furnished service on a metered basis. Within the borough, there are 144 flat rate consumers and 81 metered rate consumers.

[1] Controlling in this case is the Public Utility Law of 1937, P.L. 1053, Art 4, §§ 401, 402, 412, and 413, 66 PS 1171, which provide as follows:

"Character of Service and Facilities. — . . . Any public utility service being furnished or rendered by a municipal corporation beyond its corporate limits shall be subject to regulation and control by the Commission *as to service and extensions,* with the same force and in like manner as if such service were rendered by a public utility." (Article IV, § 401.) Italics supplied.

"Discrimination in Service. — No public utility shall, as to service, make or grant any unreasonable preference or advantage to any person, corporation, or municipal corporation, or subject any person, corporation, or municipal corporation to any unreasonable prejudice or disadvantage. No public utility shall establish or maintain any unreasonable difference as to service, either as between localities or as between classes of service, but nothing herein contained shall be deemed to prohibit the establishment of reasonable classifications of service." (Article IV, § 402.)

"Standards of Service and Facilities. — The Commission may, after reasonable notice and hearing, upon its own motion or upon complaint, prescribe as to service and facilities, including the crossing of facilities, just and reasonable standards, classifications, regulations, and practices to be furnished, imposed, observed, and followed by any or all public utilities; prescribe adequate and reasonable standards for the measurement of quantity, quality, pressure, initial voltage, or other condition pertaining to the supply of the service of any and all public utilities; prescribe reasonable regulations for the examination and testing of such service, and for the measurement thereof; prescribe or approve reasonable rules, regulations, specifications, and standards, to secure the accuracy of all meters and appliances for measurement; and provide for the examination and testing of any and all appliances used for the measurement of any service of any public utility." (Article IV, § 412.)

"Proper Service and Facilities Established on Complaint. — Whenever the Commission, after reasonable notice and hearing, upon its own motion or upon complaint, finds that the service or facilities of any public utility are unreasonable, unsafe, inadequate, insufficient, or unreasonably discriminatory, or otherwise in violation of this act, the Commission shall determine and prescribe, by regulation or order, the reasonable, safe, adequate, sufficient, service, or facilities to be observed, furnished, enforced, or employed, including all such repairs, changes, alterations, extensions, sub-

stitutions, or improvements in facilities as shall be reasonably necessary and proper for the safety, accommodation, and convenience of the public, and shall fix the same by its order or regulation." (Article IV, § 413.)

In Reigle v. Smith (1926) 287 Pa 30, 35, 134 Atl 380, the supreme court said:

". . . the borough could refuse to accept any customers beyond its limits, or along the line of its service main, but so long as the privilege was granted to some, it cannot refuse to others."

In view of the foregoing, we are of the opinion, and so find, that the Commission has jurisdiction in the instant case, with respect to extensions and service, as well as to rates, where the borough of Halifax has elected to provide water service to consumers beyond its corporate limits.

[2, 3] We are of the further opinion, and so find, that with respect to service and extensions in this area beyond the borough limits, the Public Utility Law and the determinations of this Commission take precedence over the ordinance of borough of Halifax, prohibiting tapping of the water main between the borough reservoir at borough of Halifax and the source of supply on Peters mountain, in Halifax township. We are also of the opinion, and find, that borough of Halifax, having elected to furnish its water service to customers in this territory beyond its corporate limits, cannot thereafter unduly discriminate by furnishing its water service to some and refusing to furnish its water service to others in the same class and similarly situated; therefore,

It is *ordered:*

1. That the complaint be and is hereby sustained.

2. That borough of Halifax make its water service available, at its sole cost and expense, within ten days of service of this order.

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Earl Wyatt et al.

v.

James Henry

Complaint Docket No. 14680
May 8, 1950

COMPLAINT *charging individual with steadily engaging in transportation of persons for hire without a certificate; dismissed for lack of prosecution.*

Evidence, § 19 — Averments in complaint.

The evidence required to support a complaint cannot be supplied solely by

reference to the averments of the complaint, and in the absence of any testimony by complainant or any admissions by respondent in answer to the complaint, the complaint must be dismissed for lack of prosecution.

By the COMMISSION: This proceeding arises upon a formal complaint filed at the above docket number by Earl Wyatt, Clarence Hall, John Goldman, Thomas Anderson, and George Boyer v. James Henry. The complaint charges the respondent with steadily engaging in transportation of persons for hire, for undertakers in Philadelphia, without having a certificate of public convenience from this Commission; and in particular on April 27, 1949, for Stanley Jackson, 1605 N. Twenty-first street, Philadelphia, funeral director.

No answer has been filed by the respondent to the complaint.

The proceeding was set down for hearing on September 9, 1949, by the Commission at Philadelphia but at the hearing no appearances were made. The hearing was contained by the Commission to October 13, 1949, at Philadelphia. At that time an appearance was made on behalf of the complainant but no appearance was made on behalf of the respondent. No testimony was offered at the hearing and the matter was submitted on the complaint.

If, as alleged, the respondent is engaged in the transportation of persons for hire for undertakers in Philadelphia, respondent must comply with the Public Utility Law, Act of May 28, 1937, P.L. 1053, as amended, and the rules and regulations of this Commission.

However, the evidence required to support a complaint cannot be supplied solely by reference to the averments of the complaint. In the absence of any testimony by complainant or any admissions by respondent in answer to the complaint in this proceeding, the complaint must be dismissed for lack of prosecution; therefore,

It is *ordered:* That the complaint of Earl Wyatt, Clarence Hall, John Goldman, Thomas Anderson, and George Boyer v. James Henry at C. 14680, be and is hereby dismissed.

Industrial Progress

A digest of information on new construction by privately managed utilities; similar information relating to government owned utilities; news concerning products, supplies and services offered by manufacturers; also notices of changes in personnel.

New Jersey Bell Plans $85,000,000 Program

NEW JERSEY BELL TELEPHONE COMPANY has announced an $85,000,000 expansion program for 1950-51 to meet the continued high demand for new telephones and to prepare for anticipated community growth.

Completion of the program is dependent upon the international situation, availability of materials, manpower, and earnings high enough to attract new capital.

The program is over three times as large as its annual construction for the five years immediately preceding World War II. It will result in installation by the end of next year of an additional 155,000 telephones, an increase of over 10 per cent.

Frable Named Representative Of Nickel Cadmium Battery

FRANK FRABLE with offices at 122 South Michigan avenue, Chicago 3, has been appointed sales representative for the Nickel Cadmium Battery Corporation, according to an announcement by A. B. Strange, treasurer and general sales manager.

Mr. Frable will specialize in sales of Nicad storage batteries to electrical utilities in the territories he covers in Illinois, Indiana, Wisconsin, and Iowa.

Nicad storage batteries are manufactured at Easthampton, Massachusetts and the company's executive offices are at 100 Park avenue, New York 17.

Booklet on Plant Lighting

A 32-PAGE booklet, *"Planning Guide to Improved Plant Lighting,"* covering the latest concepts of planned lighting for industry, the benefits to be gained, and the methods to employ to put a planned lighting program into effect, has been published by Benjamin Electric Mfg. Company, Des Plaines, Ill.

The subject is covered from management viewpoint, and is broken down into: economics, program development, and equipment selection.

U. S. Rubber Appointment

APPOINTMENT of John C. H. Wendes as production manager of the Naugatuck Chemical division, United States Rubber Company, was announced recently by John P. Coe, vice president and general manager.

Mr. Wendes will supervise all manufacturing and engineering operations in the synthetic rubber plants operated by the divisions in Naugatuck, Conn., Port Neches, Texas, and Borger, Texas. He will also supervise manufacturing and engineering activities in the Marvinol vinyl resin plant at Painesville, Ohio, and the Naugatuck Chemical plant at Naugatuck. He will make his headquarters in Naugatuck.

Booklet Describes Operations Of Commonwealth Associates

COMMONWEALTH ASSOCIATES, INC., is the new name of a long-established organization of consulting and design engineers, with headquarters in Jackson, Michigan. All of its officers, directors, and engineering supervisors are registered professional engineers. Previously the general engineering department for the subsidiary companies of the former Commonwealth & Southern Corporation, its activities have centered at Jackson for more than forty years. The organization is the engineering subsidiary of Commonwealth Services, Inc.

An attractively illustrated booklet tells in comprehensive detail the services which Commonwealth Associates, Inc., is prepared to render in the fields of professional, design, and consulting engineering. Copies may be obtained from Commonwealth Services, Inc., 20 Pine street, New York 5.

Worthington "Hot-Z" System Treats Boiler Feed Water

BOILER feed water can now be treated by a new system known as the Hot-Z which combines the advantages of both the hot process and the zeolite process, according to an announcement by Worthington Pump and Machinery Corporation.

The development of a styrene base resinous zeolite suitable for operation on hot treated water makes it possible to combine hot process treatment with its deaerating and silica reduction features with zeolite softening.

Further information on the Hot-Z system can be obtained from the water treating division, Worthington Pump and Machinery Corporation, Dunellen, New Jersey.

Newport News Firm Appoints Middle-West Representative

THE NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY of Newport News, Virginia, has announced the appointment of the Hooper-Green Company of Chicago and Indianapolis as its middle-west sales repre-

(*Continued on page 22*)

sentative. The Hooper-Green Company is headed by J. G. Green, with offices at 407 South Dearborn street in Chicago. A. J. Stone is district representative of the company in Indianapolis with offices at 2313 East Michigan street. The Chicago concern will have the territory of Indiana, Illinois, southwestern Michigan, and a portion of Wisconsin and Iowa. They will represent the Newport News firm in the sale of all of the products of that company with the exception of ship work.

The Newport News company, which has long been prominent in the water power equipment field, has diversified its output since the end of the war to include production of a great many other items of industrial equipment.

Guardian Bulletin Covers Contact Switch Parts

"CONTACT Switches by Guardian" is the title of a bulletin recently issued by the Guardian Electric Manufacturing Company. Numerous line drawings and charts are employed to give information relative to sizes, designs, and materials available in standard contact blades, lug adapters, and insulating separators. Included are details of the Guardian Engineer's Kit, a unit containing a generous assortment of parts and accessories.

Free copies of the bulletin are available upon request from the manufacturer, 1621 West Walnut street, Chicago 12.

Seamless Aluminum Cable Sheathing

A METHOD for applying a seamless sheathing of aluminum to telephone and electric power cables has been developed by Aluminum Company of America, according to an announcement by company officials. This new method, for which patent application has been made, involves the principle of cold reduction, or swaging (as by a tube reducer).

Seamless aluminum sheathing for cable is thinner, stronger and lighter in weight than the usual lead sheathing. Substantial lengths are now being tested by a number of cable manufacturers.

Foster Wheeler Creates New Equipment Division

FOSTER WHEELER CORPORATION recently announced the appointment of Pell W. Foster, Jr., as vice president in charge of a newly created equipment division. This division will comprise the steam, industrial, marine, and condenser departments, which are existing commercial engineering groups serving the power generation, industrial processing, and marine industries.

Mr. Foster, a director and vice president in charge of production since 1946, will continue as active head of the production and procurement departments.

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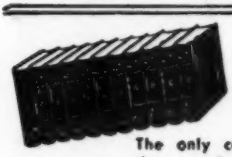

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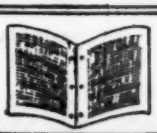

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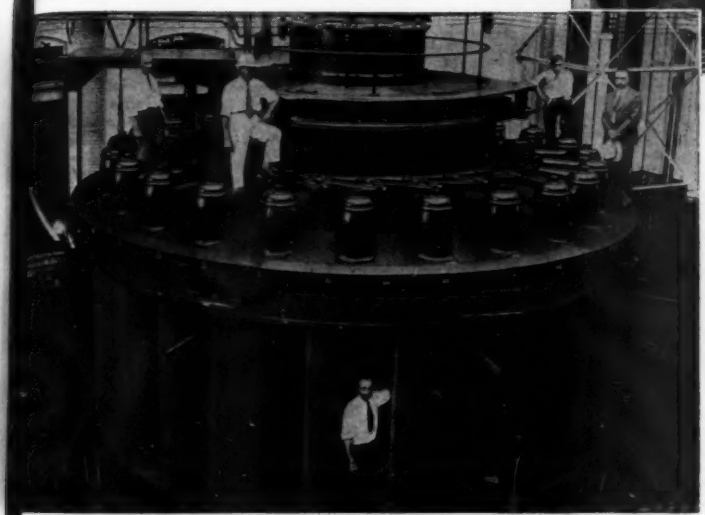

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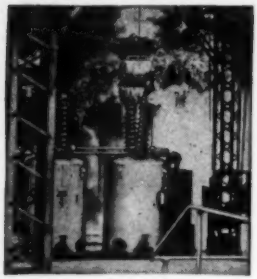

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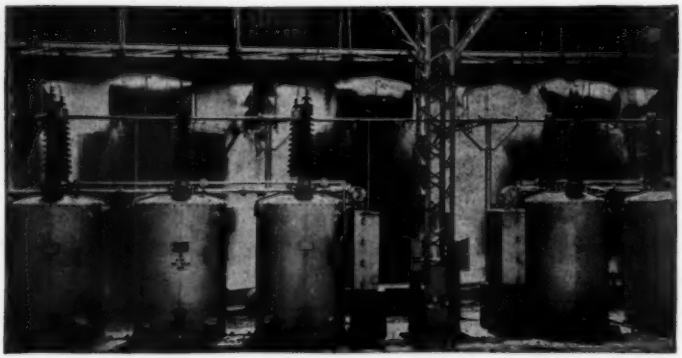

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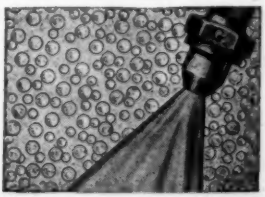

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